Historic, archived document

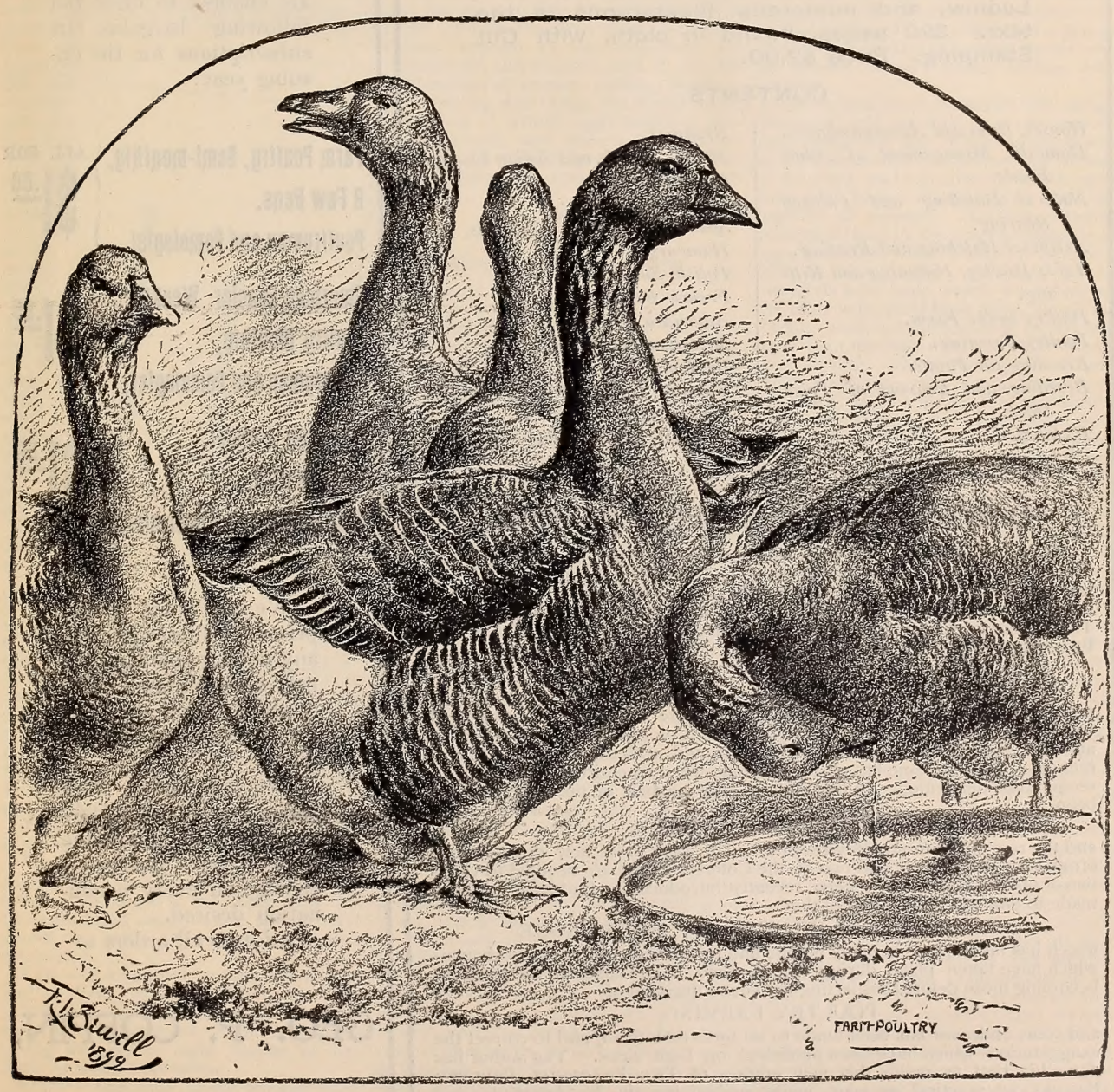
Do not assume content reflects current scientific knowledge, policies, or practices.

LIBRARY.
RECEIVED
JUN 6 1900
U. S. Department of Agriculture.

# The Poultryman and Pomologist.

DEVOTED TO PRACTICAL POULTRY AND FRUIT CULTURE.

Vol. I. South Freeport, Maine, December, 1899. No. 2.




PEN OF TOULOUSE GEESE,

Bred by Samuel Cushman, West Mansfield, Mass. ( See Page 25. )

# THE PRACTICAL POULTRY KEEPER,

BY LEWIS WRIGHT.

A Standard Guide to the management of Poultry for Domestic Use, the Market or Exhibition,

With Eight Beautifully Colored Plates, showing twenty-five Breeds, painted from life by J. W. Ludlow, and numerous illustrations in the text. 320 pages, bound in cloth, with Gilt Stamping. Price $2.00.

CONTENTS:

*Houses, Runs and Accommodation.*
*Domestic Management of Adult Fowls.*
*Natural Hatching and Chicken Rearing.*
*Artificial Hatching and Rearing.*
*Table Poultry, Fattening and Killing.*
*Poultry on the Farm.*
*Poultry Farming.*
*Breeding for Points.*
*Breeding and Rearing of Prize Stock.*
*Exhibition.*
*Cochins, Langshans.*
*Brahmas.*
*Malays, Aseels, and Indian Games.*
*Game Fowls.*
*Dorkings.*
*Spanish, Minorcas, Leghorns, etc.*
*Hamburgs.*
*Polish, Sultans.*
*French Breeds.*
*American Breeds.*
*Miscellaneous Breeds.*
*Bantams.*
*Turkeys, Guinea-fowl, Pea-fowl*
*Water-fowl.*
*Diseases, Vices, and Vermin.*

## Entirely New and Revised and Enlarged Edition.

The first edition of this work was published in 1867, its object being to give practical details with such clearness and simplicity that it might be "put into the hands of a person totally ignorant of poultry keeping, with the reasonable certainty that its instructions, if followed, would command success." The constant demand for rapidly succeeding editions has proved that THE PRACTICAL POULTRY KEEPER has fulfilled its intended purpose and

SUPPLIED A REAL WANT.

After numerous minor revisions for some of the many successive impressions, the Twentieth Edition called for more extensive recasting, and was set up afresh in entirely new type, with Colored Plates. That edition also has, since 1885, been many times reprinted, with occasional minor corrections. But the time has at length come when an entirely NEW EDITION seems to be demanded. In this edition, fully one-half of the contents have been

ENTIRELY RE-WRITTEN,

and the remainder thoroughly revised. The work in its new dress is CONSIDERABLY ENLARGED, and two of the Colored Plates are devoted to varieties of poultry which have been recently introduced. Endeavor has been made to embody the essence of that

PROGRESS AND INCREASE OF KNOWLEDGE

which has taken place in many points, and to take note of the many changes which have taken place during recent years. The facts and the truth are becoming more defined respecting the vexed question of

POULTRY FARMING,

and some endeavor has been made to set forth that truth, and to correct the exaggerations which have been published on both sides. The author has done his best to make this new edition of THE PRACTICAL POULTRY KEEPER as practical as ever, whilst embodying the *best knowledge and methods of the present day.*

**A copy of this great work will be sent postpaid with a Year's Subscription to the Poultryman and Pomologist for $2.00.**

**GEORGE P. COFFIN, - - SOUTH FREEPORT, ME.**



## Clubbing Arrangements.

By special arrangement with the publishers we are enabled to offer the following bargains in subscriptions for the ensuing year:

Farm Poultry, Semi-monthly,
A Few Hens,
Poultryman and Pomologist,
ALL FOR $1.00

American Fancier, Weekly,
Poultry Monthly,
Poultryman and Pomologist,
$1.25

American Fancier,
Farm Poultry,
Poultryman and Pomologist,
$1.50

We can quote special prices for subscription to any poultry or farm paper, when ordered with a subscription to The Poultryman and Pomologist.

Let us know what papers you want for 1900 and we will guarantee to save you a good percentage on every combination desired.

Address all orders to

**GEO. P. COFFIN,**

**SOUTH FREEPORT, ME.**

# The Poultryman and Pomologist.

DEVOTED TO PRACTICAL POULTRY AND FRUIT CULTURE.

Vol. I. South Freeport, Maine, December, 1899. No. 2.

## Winter.

(Written for the Poultryman and Pomologist.)

Winter has surely come upon us, early and in earnest, as witness the sleighing at Lewiston and other places in New England Nov. 12th. I wonder how many of the poultrymen were caught with their pullets still unhoused for winter? If the same amount of snow had fallen in Massachusetts it surely would have resulted badly for the writer, as I have several hundred head of stock still housed in their chicken quarters, and a heavy snow storm would mean their close confinement for several days, perhaps, in their unsuitable quarters, during which time serious loss might result, and the old adage that "delays are dangerous" would again have had another very forcible exemplification.

I trust all of the readers of THE POULTRYMAN AND POMOLOGIST were fortunate enough to have their hen houses in shape for winter use, and that all the stock, old and young, was safely under cover; and right now I think I can hear some of your readers saying, "I wonder what he considers being in shape for the winter?" So I shall enumerate a few of the considerations I deem necessary to be able to carry the flock through the winter in the best manner:

First — If the hen house was an old one it should have been thoroughly fumigated, and whitewashed inside and out.

Second — The old floor, if of earth, and I trust none of your readers use any other, should have been dug up to a depth of six or eight inches and thrown out and a new one of dry, light sandy loam, put in, so that the top of the floor would be several inches higher than the land outside of the hen house; if the old house set too low last winter so that water stood in the hen house part of the time, or the floor was continually damp, the house should have been raised high enough to permit of this being done.

Third — The roof and sides should have been made wind and water proof.

Fourth — A large quantity of dry leaves should have been gathered and thrown into the hen house to the depth of a foot or more, ( and plenty more should have stored in some dry place for future renewals ).

Fifth — A box three or four feet square and a foot deep, should have been provided for a dust box, and this box should be kept filled from now until spring with six or eight inches of dry earth or sifted coal ashes.

Sixth — The nest boxes should have been burnt out, whitewashed, and filled with fresh material.

Seventh — The roost and drop board should have been thoroughly cleaned and treated to a good coat of kerosene and napthalene crystals.

Eighth — All broken panes of glass should have been reset, and care taken to provide the door with suitable fastenings to keep it securely closed when shut.

Lots of work, you say. Well, it looks like it on paper, but in reality takes but little time to accomplish, and when done, affords lots of satisfaction to the owner, and assures comfort for the hens.

The man, woman, boy or girl that will take the pains to thus house their birds at the commencement of winter will take interest enough to see that they are properly fed and watered, and it is this combination of proper raising, feeding, and watering that brings the winter eggs, and plenty of winter eggs means a generous income, and with a generous income we can provide ourselves with those worldly things that makes this life worth the living.

FRED B. COCHRAN.

## Poultry on the Average Farm.

(Written for the Poultryman and Pomologist.)

Poultry on the average farm is always the first thing to be neglected, and during the cold, chilly days of autumn and early winter, when the farmer would not think of letting his cattle or horses be exposed to the weather, his fowls are at the same time roosting in the tree tops and on fences or any place that they can make themselves most comfortable. He provides the best of quarters for his other stock, and keeps his stables, etc., as clean as could be desired, while his fowls are generally quartered in any sort of a makeshift building that he chances to have, or instead they are running around the stable and roosting on horse stalls and the like. Their roosting places are cleaned out once or perhaps twice during the year, generally in the springtime so the droppings can be used on the garden. His cows are fed a well-balanced ration, and he soon notices if a cow begins to lessen her usual supply of milk, while his feed for the poultry consists of whole corn, thrown down in the dirt or anywhere that happens to be the handiest. They are watered at any time and place, — ten chances to one they have to find it themselves.

The stock of the average farmer is generally a lot of mixed breeds, and has probably been inbred for a number of years, and do not grow to weigh over four or five pounds at the most, and still he is always finding fault with the hens because they don't lay more eggs. This old-fashioned way of poultry keeping should have long ago been abandoned by today's farmer, and if he could be talked into the subject of modern poultry raising, such as that now carried on by the practical, up-to-date poultryman, he would surely give up his slack ways of feeding and caring for his poultry, and instead of having the generally makeshift poultry house, he would have a nice warm building, equipped with plenty of clean nests, and good thoroughbred stock, and have one of the most profitable investments that he ever made.

It has been preached, time and again, that it was a waste of time and money to keep inferior mongrel stock, and this past season has more than ever forcibly impressed this upon my mind. A number of sittings of eggs were purchased, from good thoroughbred Barred Plymouth Rock stock, and some from common mongrel stock. There was not much difference in regard to hatching, but a glance at the two varieties at present shows why the farmer doesn't make money with poultry.

The Barred Rock cockerels will weigh about six and one-half to seven pounds each, while not any of the mongrels will go over three and one-half or four pounds at the most, and with absolutely the same care and feed, — in fact both lots run together all summer. Another instance presented itself in the way of mongrels as egg-producers, while I was on a poultry farm in New Jersey. A single pen of mongrels were kept, solely for supplying the table with good fresh eggs, but all the forcing could not induce them to produce more than one-half what the other breeds were laying, while 190 Single Comb White Leghorns were laying from 110 to 120 every day. Finding that the scrubs could not supply the table, they were killed and marketed, and the pen was replaced by some culls, from the fancy Barred Rocks and Leghorns, and the difference in the way of eggs from that pen was surprising. A good pen of Single Comb White Leghorns ( for egg production ) would satisfy most any farmer. If all I wanted was eggs, certainly I should not look any farther. While the other heavier breeds are sitting, the Leghorns are doing their best work shelling out the eggs for the market basket, and keeping the dollars rolling into the poultryman's pocketbook. The farmer should of course have a heavier breed, if he wishes to sell poultry for market. Everything taken into consideration, I should take the Plymouth Rock or Wyandotte, as either would give the very best of satisfaction, for both poultry and egg-producing. In fact, either of these breeds make the best possible all-around fowl for the farmer. He should arrange things so as to get his chicks out of the shell in good season in in the spring, and then by proper feeding and care, should have the pullets laying by the first of November, and should keep them shelling out the eggs all winter, when they command the highest prices on the market. This he can do by good care and food. His cockerels and what culls he may chance to have, should be killed and dressed and sent off to market to capture the highest prices, and he will soon realize that his years of keeping mongrel stock have been of no profit to him, in comparison with his up-to-date thoroughbred stock. If he gives his poultry the care that he does his other stock, he will find at the end of the year that his biddies are far ahead of the others in the way of real profit, and if he knows what is best, he will try the next season to get out a larger number of chicks than ever before, and eventually he would be building up the most pleasant and profitable business of his farm. A farm is one of the best places in the world to rear

poultry successfully, as the young stock can have the run of the grass fields after the hay is cut and they should therefore go into the laying houses in the fall strong and healthy, and with little prospect of such thing as disease among them. There are always plenty of small potatoes, turnips and cabbages on a farm, and they cannot be surpassed for green-food for the fowls. Usually there is a bed of clover somewhere about the fields, and this should be cut and saved for winter use, as nothing can be of greater value than this, when cut and steamed, and fed in the mash to the fowls. With all these advantages presented to the farmer, why will he keep on breeding his common fowls, when he could (as we stated before) by breeding good stock build up the most profitable business that his farm ever knew, for his products will always demand ready cash, no matter how much he has to sell. Let every farmer that clings to mongrels, "strike while the iron is hot" and raise his next year's supply of chickens from good thoroughbred stock and he will never have cause to regret making the change.

FRED L. DAVIS.

### When a Breeder Decides to Show.

(Written for the Poultryman and Pomologist.)

When an experienced exhibitor arrives at the above decision he knows exactly what to do and straightway goes about it with a *positive* knowledge gained by long experience to guide him. The result is easily apparent at every large show that we attend. But when the novice decides to show it is vastly different. All he has to guide him is the mass of supposed information, which is inflicted upon the poultry press at this time of year; and I don't believe that the amateur, or professional either, can be found who can follow the instructions of some of these self-appointed authorities and keep the victims of such heroic treatment as they advise in condition to live, to say nothing of getting them in condition to show.

First of all the females intended for the show pen should be separated from the males and kept separate until after the show. Any of the males which may not have attained a full plumage should also be separated from the females. But don't pen them up; let them run at large on another part of the place if possible and, if impossible give them good, large, well-grassed yards. If the food that you are at this time feeding is keeping the birds in a healthy, vigorous condition and seems to supply all that is needed for proper development and feather-growth continue feeding the same.

The principal requisite to true exhibition form, or show condition, is health, robust health. Without it all the fussing around and doctoring imaginable cannot make a bird "fit," and *with it* all fussing and coddling are not only unnecessary but absolutely harmful. In some cases it may be necessary to give especially prepared food in order to bring up to weight some specimen that is poor in flesh; but usually a bird in poor flesh is a bird in poor health and poor condition of feather and impossible of getting into show condition. Should such a contingency occur, feed vegetable foods (as ground corn and oats) and milk and very little or no meat.

Exercise *must* be obtained for them in some way. If confined to the houses, fresh, clean litter should be present into which their whole grain may be thrown, thus giving them plenty of employment of the sort that they have when roaming in the fields, But be careful not to throw down more than they will at once find and eat up clean; if you find that you have done this, take up the litter and take away what is left at once. Give plenty of fresh air when they are at it. It will take a pretty cold pen to chill them when they are at work, but when their work is done, make the house reasonably close if the weather is frigid.

Use no dusty litter; shake it in the open air before putting it in the pens.

Place all drink in such a position that the birds can drink freely but so that it will be impossible for them to get wet in it or to moisten the litter in the pens with it.

Plenty of grit should always be at hand and green food should be fed carefully, and noting closely its effect.

Occasionally as the exhibition week approaches carefully wash the legs (shanks) of the individuals with Ivory soap, clean the scales of dirt, anoint with vaseline and wipe dry, taking care not to soil the plumage.

Put each bird, particularly those that are to be shown singly, into a clean exhibition coop frequently and make it accustomed to being "shaped up" and handled; you will be surprised at the difference it makes in its appearance when before the judge. All these minor points are useful and should be consistently carried out. But put before everything *good health* and *absolute cleanliness*.

H. A. NOURSE.

### The Business Hen Analyzed.

(Written for the Poultryman and Pomologist.)

Nowadays one can scarcely pick up a poultry paper without his eye falling upon some article on the practical fowl or some breeder's advertisement claiming his particular breed to be the business hen of the 19th century, and numerous other similar claims, all going to show that a few fanciers are gradually awakening to the fact that most people keep hens for other purposes than fine barring, good undercolor, and other fads.

Although I hardly expect every breeder will agree with me, yet it seems to me as though there are certain fundamental principles that cannot be ignored, so perhaps a few suggestions on what should constitute an ideal general-purpose fowl or business breed would not come amiss at this time.

First, and above everything else, should be hardiness in the superlative degree since that is the foundation of all, for without hardiness the breed is as useless as a ship without a rudder. The chicks must be strong and hardy when they are hatched, the pullets must be strong and hardy to bring them to early maturity, and the cockerels must be strong and hardy to stand the forcing feed necessary to quick growth which enables us to turn them into cash with the least possible expense.

Second—Quick growth and early maturity. By quick growth I mean cockerels that will weigh 2¼ pounds at eight weeks old and reach eight or nine pounds at five months. By early maturity, I do not mean the little chunks of pullets that will mature at about three pounds weight, and when they are four months old lay an egg about as large as a robin's.

We have too many of that kind now; but I mean a pullet of good size, that will lay a good-sized egg to start with.

Third—Shape. For shape I hardly think we can improve on the Dorking very much: a long keel bone, with a very deep body, well rounded at the sides, a broad back with a good full breast set on a large pair of shanks, rather short, and set well apart, will about fill the bill.

Fourth—As to color of plumage and egg, we shall have to be governed by our market. The Boston market, which rules New England, demands a rich yellow skin and legs, and a dark brown egg. What we want, then, is a bird that is a prolific layer of a good-sized, dark brown egg, and when dressed will have a nice yellow skin. There are many yellow-skinned breeds but if they have dark plumage they will show a dark pin feather which is a detriment, and if they are chalk white their skin will look blue, so our ideal fowl must be one of two colors, either creamy white or buff.

There are other minor points that should be considered, but I think I have given some of the principal characteristics that should be considered.

I will not attempt to say which one of our many varieties comes the nearest to filling the bill as every breeder has his particular favorites, but I think they will all admit that the utility bird of the future must possess most of the characteristics I have mentioned.

A. L. MERRILL.

### The Maturing Pullets.

There is no branch of the breeding business that affords more genuine satisfaction to the enthusiastic fancier than the development of the pullets. A few weeks ago the pullets were leggy, awkward and presenting little to admire except to the experienced eye of the veteran. With good care, however, a great change comes over them in a few short weeks. They suddenly become symmetrical in form, and with the completion of the feathering process they begin to show the points for which the true fancier is ever looking. They bring to his imagination visions of a full egg-basket in early winter and blue ribbons on his exhibition coops.

These much-wanted results are not secured, however, without considerable work and good judgment on the part of the breeder. Plenty of good wheat, a good mash once a day, grit, charcoal, some prepared meat food or green cut bone, and if confined, plenty of green food are absolute necessities to the early development of the pullets. Separation from the cockerels is advisible at the age of three months for the early maturing breeds, and a month later for the later maturing breeds. Clean quarters and plenty of fresh air at night are, of course necessary, and when these conditions are complied with the hopes of the most enthusiastic breeder are likely to be realized.

Some will say that this entails too much work, but one who tries it will be fully repaid when eggs are forty cents a dozen and blue ribbons beyond price.—*Henry L. Allen, in Reliable Poultry Journal.*

---

It takes too long to grade up a flock of common fowls. Better start the thoroughbreds with a setting of good eggs or a pair, trio or pen of choice breeding stock, than to spend several seasons work in approximating their excellencies.

---

Dress your poultry neatly. If more attention were given to the little points that make dressed poultry for market attractive, there would be less complaint about poultry not paying.

### Ventilation.

The subject of ventilating poultry houses is one that needs little attention during the warm season, as, for the most part, the houses are run with doors and windows wide open, but when cold weather sets in, and doors and windows have to be closed, ventilation becomes a rock on which many stumble. Just why some poultrymen will endeavor to make their houses tight and draft proof at considerable expense, and then defeat their own purpose by adding ventilators, is a question they would find it difficult to answer satisfactorily.

The fact is that ventilators seldom ventilate. Most of them depend wholly on exceedingly visionary theory for their beneficient action, and possess no practical value. Fresh air is necessary in the poultry house; it is essential to health. The amount of fresh air supplied by ventilators is but a thin current, a *draft;* and drafts are things that we must keep out of poultry houses if we are to keep our fowls healthy. The current of pure cold air which flows in from the ventilator passes through the warm fouled air of the house just as you have seen a thin current of clear water running into a muddy pond. For a little distance it clears the fouled air throughout a small path about equal to its own width, and then gradually becomes lost in the greater medium. The purifying effect of this thin stream of pure air on the great bulk of foul warm air is practically *nil.* Aside from doing no good, it actually becomes a source of harm; as a result of it the fowls have colds, and the owner wonders how it happened. His house is tight and warm, he knows of no drafts, for he shuts his eyes to the draft he made to order with his ventilator.

The thin current from the ventilator does not ventilate; but a volume of fresh air let into the house by opening doors and windows does, and leaves the air sweet and pure. There are very few days, even in severe cold weather, that doors or windows cannot be thrown open for sufficient time to thoroughly air the house, and freshen it sufficiently to make it habitable until the next day. The length of time the windows are to be left open, depends on the weather. On a cold day if the windows are open for only a few minutes, the house will air out as thoroughly as it would in several hours on a warm day. The best time for airing the house in cold weather is when the sun shines full in at the windows, and the fowls are actively scratching for their midday meal.

Besides creating drafts, another vicious feature of the ventilators is that they are almost entirely beyond control. The amount of warm fouled air which they allow to escape, and the amount of cold pure air which they let in, does not depend, as many suppose, on the position of the "damper" and the size of the opening. The weather has more control over the ventilator than the man who thinks he runs it. The amount of fresh cold air which enters, and the amount of warm fouled air which escapes, depends almost wholly on the temperature. If it is a cold day, a very small opening will generate a considerable draft. If the day is warm and still, there will be little flow of air through the ventilator, even though it is run wide open. If there is a strong wind the flow of air will be greater than when the air outside is still. The poultryman will adjust his ventilator to suit conditions of weather at the time he is in the house; an hour later he may not be within reach of the ventilator, and the weather may be greatly changed—the fowls have to take the consequences, and the owner wonders why he is so troubled with sick fowls.

The right way is to build the poultry house just as tight and warm as it can be made. There is no danger of anyone making the house too tight. Make the windows to open, and air the house out daily, just as yon would air out your own bedroom. If the house is thoroughly aired daily, that is all the ventilation it needs. If the house is well and properly built, it does not need ventilators.

You may say, "I have a warm tight house, it is aired daily, and yet it smells to heaven; I can hardly breathe when I enter it in the morning after it has been shut up all night." In nearly every case of this kind the fault is too many fowls for the *size* of the house, or the house is not properly cared for. What the house needs is not ventilators, but better care, and fewer fowls in it. If the house is overcrowded there is not enough air in it to go around, and it is sure to take on an atmosphere like that of a slum sweat shop. There is no need of a house "smelling to heaven." If the droppings boards are cleaned often, daily when practicable, and three times weekly at any rate, and some good absorbent sprinkled over the droppings boards to neutralize any odor that may be, there will be no smelling to heaven Land plaster or gypsum is probably the best thing to use on the droppings boards, but good dry earth will answer. Lime or ashes should not be used, as they set free the noxious odors, and also destroy the value of the manure.

The human nose is the best device yet invented for determining the condition of a poultry house. If the house smells all right it is pretty sure to be all right. A good nose will tell you all about neglected droppings boards, fouled nests, and even discover the presence of sick fowls. Use your nose every time you visit your poultry house, educate it if necessary, and it will save you dollars.

Another complaint often heard is: "If I build my house tight it will get damp unless I have ventilators to carry off the the moisture exhaled by the fowls." Whether there are ventilators or not, there will always be some condensation of the moisture exhaled from the fowls' lungs, and some of it will be deposited on the walls. If the house is aired out daily it will not be of sufficient quantity to cause any trouble, but if the house is small and overcrowded, it will be a source of trouble, and ventilators will not remedy it.

There are many kinds of ventilators; nearly every plan for a poultry house that you take up will present somebody's latest device for ventilating. Architecturally they may give a finish to the building, theoretically they may accomplish great things, but practically they are a nuisance, to say the least. Good windows that will open when needed, and that will close tightly, are the only sensible ventilators. If the house is high studded some transom windows near the highest point of the walls may be of service in airing out. In warm weather run the house with the windows open day and night. In cold weather close the house snugly at night. Perhaps in your own snug furnace or steam heated bedroom you may always keep a window open, summer and winter, but it is different with the fowls. Their house is not so tight, has no artificial heat; they warm it with their own bodies, and their bedroom should be snug at night if you expect to keep them healthy.—*Dr. Woods, in Farm Poultry.*

---

### Throughbreds and Mongrels.

There are good individual fowls among the mongrels, if we only take the trouble to select them. This may seem a strange statement to come from one who has bred and advocated throughbred poultry for more than a quarter of a century. But the fact is apparent to me that it makes no difference what kind of feathers a hen has if she is a good one, of the correct laying type. A good hen, like a good horse, never has a bad color.

A year ago this fall I was called on by a young man, who deals largely in poultry, to select some hens for him that I thought would pay to winter. He had about 500 in the lot, of all colors, ages, sizes and shapes, purchased of farmers. I went through them carefully and selected about 75 of the most likely pullets and about 25 of the best hens. These he divided into lots of 25 each, placed them in warm quarters and diligently fed and cared for them during the winter.

In making the selection I kept the one point in view—the egg type—paying no attention whatever to color, and that I made a good selection is attested by their records. In November these hens produced 412 eggs; December, 518; January, 814; February, 861; March, 972; April, 847. During the latter month many of them were broody or sitting. In February he mated up four pens with Barred Plymouth Rock cockerels purchased from me, and raised during the season some 500 chicks, nearly all of which strongly resembled the Plymouth Rocks. Out of this number I have selected for him 75 pullets, from which he will select breeders that will be bred to their sires another season.

This young man was thoroughly imbued with the idea that he must have new males, and it required much argument on my part to convince him that he would be losing just so much ground by introducing new blood.

"Are not these hens as good as thoroughbreds?" he asked. Here is the point: These selected hens did, perhaps, as well as many flocks of thoroughbred fowls, and aside from size, table qualities and plumage, were the equal of the thoroughbreds, but they did not have the power to reproduce themselves, and their offsprings, even when bred to thoroughbred sires that had the power to stamp the characteristics of size and plumage, only gave a limited number of the desired type. Here is where the pure-bred and line-bred fowl has the advantage—you do not have to discard 80 per cent of the progency.

Another season the chicks from these yards will be a more even lot, and having three-fourths of the blood of the Plymouth Rock, will begin to show their breeding by developing more of the egg type of females. If bred to pure Plymouth Rock males of the same blood as their sires they will, in a few generations, if carefully selected, be as good for practical purposes as the average flock of pure-bred fowls.

What we gain by starting with pure breeds is that we have the advantage of years of careful breeding, and are liable to at once produce the kind of fowl we desire. It takes many generations to breed fowls true to a certain type, and the bad qualities of these mongrels will crop out for a long time to come, but as

I said, there will be many that will be good utility fowls.

I would not advise anyone starting in the poultry business to attempt to grade up mongrels, as they can buy chicks or eggs of the pure breeds so cheap that it would not pay, and it takes too long to establish a strain, but if one wants a lot of hens to supply eggs, he can get them from mongrels by careful selection, but he is not sure of getting winter laying fowls. That is a trait that must be bred into them. There are mongrels that will lay in winter, but the proportion is very small, while there are many of the egg-laying type that will produce abundantly in the spring and summer, It may pay the farmer to grade up his stock by using pure-bred males, but by the purchase of a few sittings of eggs, or a trio of fowls, he can do in one season what it will take him several years to effect by grading. Where one has a great number of mongrels it will pay to breed them to thoroughbred males for market poultry, and buy eggs and raise pure breeds to renew his breeding pens.—*Ohio Poultry Journal.*

### Green Food.

All poultry keepers, whether farmers or not, should plan for green feed for their fowls in winter by raising in summer turnips, beets, onions, and cabbage—one or all of these—to which almost every one in the older portions of the country will be able to add apples, this fruit, especially sweet apples, being nearly as good as the vegetables. Chop the fruit in a chopping-tray, not quite as fine as mince-meat, but so that the fowls can pick it up as they would kernels of corn, and they will relish it extremely when cold and snow prevent their seeking grass and other green things with which they supply themselves largely in the warm season.

Two or three times a week—or, better, daily—this mess of green food must be given them. It provides the change of diet they need in their rations; the coarse, juicy pulp keeps in order the digestive organs, and helps to furnish some of the waste material which must find a place in the food of all living creatures. Some people advise suspending a cabbage head in the hen-house, and allowing the fowls to help themselves; but we find that any of these vegetables go farther and seem more satisfactory when chopped nicely, and mixed with almost dry meal and scraps of meat. A sprinkling of salt-water, a dash of pepper, or a pinch of ginger, compose a dish for which the fowls will give you to-day audible thanks in the happy crooning noise with which they partake of the savory repast, and visible thanks to-morrow, when you fill your egg basket from the newly supplied nests. This cheaper food also saves somewhat in the meal and grain, which is their common fare, and gives in the way of variety even more than its actual benefit in several other directions.—*Stock Keeper.*

---

At a Maine grange meeting recently, the question for discussion was, "Which costs the most to produce, a pound of beef or a pound of chicken?" One of the members answered it by showing from figures that beef was sold at a profit of one and one-half cents per pound, while chickens gave a profit of five cents per pound. Score another point for practical poultry.

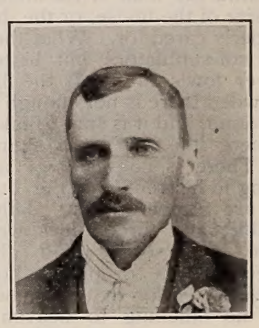
### W. H. Scovil, East Lebanon, Maine.

(Special Correspondence.)

W. H. Scovil, the subject of this sketch is located at East Lebanon, Maine, and is one of the foremost of up-to-date progressive poultry breeders in the State. His place is situated about three-quarters of a mile south of East Lebanon depot on the Portland & Rochester Railroad.

The plant consists of about twenty breeding pens, besides a brooder house, quarters for growing chicks, pens for fitting up birds for exhibition, and cooping arrangements for birds for shipping, etc.

It is not the aim at this place to excel in numbers. Raising poultry and eggs for market is not primarily the object.



The end sought and largely attained is the improvement of the different varieties bred. The success along these lines may be judged from the fact that birds from these yards have won at many of the leading shows throughout New England.

The improvements carried on here are not only for exhibition specimens, but for large producers, thus combining the two essentials beauty and utility. Trap nests are in use to some extent and it is the intention to have all the laying pens supplied with them at the earliest possible moment. A careful record is kept of all the matings, also of chickens hatched, so there is no guess work connected with the breeding management.

In the season of '98, about 1500 chicks were hatched. The present season only about 1000 were hatched. The demand for eggs for hatching for a few weeks at the height of the breeding season taxed to the utmost capacity the "producers", and in consequence the home supply became a very uncertain quantity. The "facilities" have been increased and no trouble is anticipated in this direction for next season.

Mr. Scovil has bred most all of the leading varieties at different times but has now settled down to Buff Plymouth Rocks Buff Cochins, White Wyandottes, Houdans, and Buff Cochin Bantams, the Houdans and White Wyandottes being the latest addition.

Visitors are welcome and no pains are spared to interest them. The fact that Mr. Scovil has for years advertised "Your money back if not satisfied," and in a recent number of the American Poultry Journal offered $100 to any one who would prove that he had ever been asked to refund a cent paid to him for stock or eggs speaks well for his judgment and square dealing. There is room for others. H.

---

The farmer is rightly situated to make poulty pay if he will only improve his opportunities.

### American White Plymouth Rock Club.

The American White Plymouth Rock Club will meet this season in the following places: Boston, New York, Chicago, Cedar Rapids, Ia; Oakland, Cal; Spokane, Wash., and Toronto, Can. These meetings will be of the whole club and will be official annual meetings. They will be held in connection with the shows at the above mentioned places. This plan of holding several official meetings has been deemed advisable for the reason that on account of the very large membership and the territory over which it is scattered it would be impossible for a fair proportion of the members to be present at a single meeting, even though it be centrally located.

State meetings of the club will be held in Massachusetts, Connecticut, New York, Pennsylvania, Ohio, Indiana, Illinois, Michigan, Kentucky, Tennessee, Texas, Missouri, Iowa, Nebraska, Kansas, California and Washington. At these seventeen state meetings the club will offer a handsome diploma of special design, suitably framed and delivered to the winners, free of all cost. The diplomas will be awarded for the best pen of White Plymouth Rocks and can only be competed for by the members in the states where they are offered, except that in states where there are no meetings the members have the privilege of competing at the state nearest to them. All White Rock breeders who wish to compete for club prizes either at annual or state meetings must be members of the club in good standing and to those who have not yet joined the club we wish to say that it will be of great benefit to you in breeding White Rocks. In order to get all the benefits this season you should join at once. The membership fee is $1 and should be sent to the undersigned. Upon receipt of your application, membership card and full information regarding the affairs of the club will be sent you.

FRANK HECK, Sec.-Treas.
New Albany, Ind.

### Toulouse Geese.

Toulouse geese are the largest of the goose tribe, weighing, when fattened and matured, as high as 60 pounds per pair. They have all the good points to make them the best geese raised in the northwest. In the first place, if you want a goose for size and weight they take the lead unchallenged. Second, if you desire feathers of finest grade and one-third to two-thirds of a pound to a "picking," they will please you. Third, as layers and good breeders, we can say that they lay from 30 to 40 eggs each season, commencing to lay early in March; giving one a chance to have the earliest of young geese and of bringing the highest price. Fourth, they are small feeders for their size, and require no food but pasture in summer and light food in winter. Fifth, their disposition is gentle—not unruly. They do not wander and are quiet and satisfied. Sixth, we find them easy to raise, much stronger than common goslings, and they grow rapidly. Geese are very profitable fowls, especially where grain, potatoes, bran or other light feed is cheap. One does not need a goose to get a start. Get a sitting of eggs and give two hens four or five eggs each (they cannot well cover more, for the eggs are large), and you can have every reason to expect a good number of nice geese in the fall.—*Northwestern Agriculturist.*

### The Principles of Breeding.

In the report of the Rhode Island Experiment Station, Prof. A. A. Brigham writes as follows, regarding the principles of breeding.

The art of successfully breeding domestic farm animals is the highest branch of agriculture. The best qualties and talents of man are brought into exercise in the controlling and managing of natural forces for moulding the plastic animal organisms in producing the proximate and ultimate results of modern stock-husbandry. Man began very early the domestication of animals, and the art of stock-breeding is thus a very ancient one. From the experiences and observations of stock-breeders during thousands of years there have arisen and been handed down such axioms as "like begets like," "like sire, like son," "bred from the best," etc. The principles of the art of breeding today are based upon the experiences and practices of the past. The science of breeding has the same basis and has been further developed by experimentation in certain lines.

The aim in poultry-breeding is to produce and perpetuate the best birds, *i. e.*, such as in their form and other characteristics answer the purpose of the breeder. The object of the art as usually practiced is to produce the largest quantity of the best quality of certain animal products with the least waste and largest net profit.

The scope of stock-breeding is almost unlimited, and gives ample room for the largest and best, the deepest and highest, study and practice of agriculturists.

When we consider that the excellent improved breeds of poultry of the present day all originated from wild and slightly esteemed progenitors in the past, we gain some idea of the amplitude of opportunities which are open to the intelligent breeder in the present condition of poultry culture.

Heredity—Success in stock breeding depends upon the certainty that the progency will, at the time of procreation, inherit the general or mingled qualities of the parents. Color and outward shape, and the characteristics and tendencies of the internal organs and structure, are thus transmitted. Heredity extends even to the transmission of longevity, fecundity, disposition, and habits. Not only are desirable qualities inherited, but also diseases or tendencies to disease; in some cases developing early in the life of the offspring, in other cases predispositions developing into diseases later in life or when some external condition conduces to such development, and sometimes carried on to the next or a further generation.

It is the principle of heredity which holds the plant and animal kingdoms to an orderly development and prevents digression to any serious extent from well-defined species. It is wonderful beyond expression, this power of inheritance contained in a microscopic fertilized cell, which with unerring precision guides its development into an organism like its parents. It gives stability and constancy to the breeder's work. He knows, at least, that when he hatches a goose egg, it will produce a goose and not an eagle, a snake, or even a duck. Man, in his inordinate desire to evolve something striking or marvelous, sometimes oversteps the bounds of nature's system and evolves a curious hybrid, or a monstrosity; but to his chagrin finds that his product cannot be perpetuated—it will not breed.

Atavism — Sometimes the poultryman, striving to obtain a certain quality in the progeny of his fowls is surprised and disappointed in finding that the offspring does not resemble its immediate parents but inherits the characteristics of some more ancient progenitor. The re-appearance of any peculiar characteristic of an ancestor after one or several generations have intervened, is a phase of heredity termed "atavism" or "reversion." Dana defines atavism as the recurrence of the orighlnal type of a species in the progeny of its varieties.

In this connection the terms dominant and as latent those which appear conspicuously in the offspring, and as latent those which apparently disappear, become obscured, or are held in abeyance for one or more generations, to again appear under favoring conditions as dominant qualities in an individual of a later generation. This is in accordance wtth the theory which considers that in the offspring there is a mingling of the characteristics of the offspring's ancestors, and the arrangement of these characteristics in any given offspring determines what shall be the dominant and theretore the conspicuous qualities of the animal.

Prepotency—When an individual of any breed of domestic animals possesses the power of transmitting any peculiarity or quality with especial certainty, that individual is said to be prepotent, *i. e.* very powerful in that direction. Prepotency is increased by carefully breeding together animals of like inclination, and the longer this process is continued the more certainly is the peculiarity transmitted. Prepotency in a given respect may thus come to be a quality of a flock, of a family, and of a breed.

The principle of prepotency is of special value to the poultry breeder, in that it enables him to select for his particular purpose an adapted breed, which is, as a breed, prepotent in the line desired; next, to obtain as foundation stock individuals from a family known to be especially prepotent in the particular respects desired; and, finally, to use as the sire of his animals' offspring a male individually prepotent, and most certain to transmit the desirable characteristics to his get. Prepotency is of great practical utility in crossing males of pure breeds upon common stock, to rapidly improve the poultry of a country or district.

### A Farmer's Flock.

(Written for the Poultryman and Pomologist.)

Early last spring I called at a Biddeford man's poultry plant, located a short distance from the city. This poulterer has other work which takes up a part of his time. The land, I thought, was lowish, flat and clayey. About 400 hens are kept in two or three large houses. A walk extends the whole length of the buildings on the back side. At one time a whole house was in one pen; but now it is divided into four or five large pens, and the hens lay much better. The fowls are kept in quite large numbers in a pen that is well littered.

The laying pens were filled with cross-bred hens obtained by crossing Barred Plymouth Rock hens with S. C. White Leghorn males. The hens were not exactly pure white in color. Some of the hens were but slightly, if any, larger than Leghorns, while others were about the size of their female parent. These cross bred hens lay more eggs than the pure Rocks, he said. Besides the matings to secure the cross-bred hens there were also some Barred Rock matings. Two males are kept in a pen.

The hens had not been let into the muddy runs yet. He said hens will not lay as well yarded as on free range, unless given extra good care. At this time of year he does not try to make the hens lay, but they do nevertheless. He would be willing for them to rest then, so as to lay when the price of eggs go up.

One Biddeford grocer takes all of his eggs. The past year they averaged a fraction over 17 cents a dozen. He does not sell hatching eggs as a business. When not saving eggs for the incubator he sells some hatching eggs at a small advance over market prices. He has kept accounts for a number of years, and the profit per fowl is usually over a dollar and rarely as low as 90 cents. Speaking about feeding skim milk, he said he should let "the other fellow" feed it when it cost a cent a quart. He feeds milk when he can get it very cheap at the creamery.

A 600-egg Monarch does the hatching. It was full of eggs. He has no time to hatch with hens. The chicks are reared in home-made brooders and roosting houses. A small field is fenced in for their range. He says hatch the pullets early and get them laying in the fall. Late hatched pullets are always late; late to begin laying, late in moulting, and consequently later in laying the next year, when the price drops. He believes in keeping them three years; thought it a waste to kill them off after one year's laying. Oat meal bought at wholesale forms a part of the chicks' rations. I think one interested in poultry can learn much from visiting a poulterer.

#### A "DRY" THEORY.

A hen will "go dry" when eggs are scarce and high, and you cannot get her to lay until she gets ready, said a farmer at our last club meeting; but with cows by planning, we usually get milk at any time. From my limited experience I must take exceptions to the above, although it seems to be true in many cases. I believe the poulterer, after he learns the business, can arrange matters so as to be almost sure to have eggs when they are scarce in market in the fall. I am getting more eggs this fall than in either of the two previous falls, and with no more fowls. I expect greater fall egg yields in the future, as I gain more knowledge of the business. E. T. PERKINS.

### The Haverhill Show.

The eyes of all New England breeders are turned toward the show of the Merrfmac Valley Poultry and Pet Stock Association at Haverhill, Mass., Dec. 12-15. At this show each some of the high scoring chicks make their debut, and follow up this success by winning at Boston and New York a month later. Everything points to a grand show this season, and the work of the officers in in securing such a collection of special premiums should be rewarded with large entries and a full attendance.

During the first week in January there will be four poultry shows in New England, at Peabody and Lenox, Mass., Woodstock, Vt., and Manchester, N. H.

You will make no mistake if you place your order with W. H. Scovil.

# THE POULTRYMAN & POMOLOGIST

SOUTH FREEPORT, MAINE.

**Geo. P. Coffin, - Publisher.**

**Published the First of Each Month.**
**Subscription Price 25 cents per Year.**

All matter intended for publication should reach us by the 20th of the month preceding the issue in which the same is to appear.

Write your name in full, giving post office address plainly, so there will be no mistake.

*ADVERTISING RATES.*

| | |
|---|---|
| One inch, one insertion, | .75 |
| One column, one insertion, | $6.75 |
| One page, one insert on, | $18.00 |

Ten per cent discount on three months' insertion; 15 per cent on 6 months' insertion; 25 per cent on 12 months' insertion.

New advertisements must be received by the 20th of the month, and copy for change of advertisements must be received by the 15th of the month preceding date of issue.

*Make all remittances payable to GEO. P. COFFIN, South Freeport, Maine.*

The columns of this paper are open to communications concerning anything in which our readers may be interested. Contributions and questions on Poultry or Fruit topics are solicited, and our readers are invited to use the paper as a medium for the exchange of ideas of mutual interest.

## DECEMBER, 1899.


### OUR POLICY.

It is with a great deal of pleasure that we note the words of encouragement and good wishes extended by our friends and contemporaries, and we shall endeavor to so conduct this paper as to merit a continuance of this kindly feeling. But good words are not the only expressions we have received of appreciation of the paper, for we have had a large number of subscriptions, greater by far than we anticipated, in the time since our November issue was mailed. If this condition continues, the success of the paper is assured without considering the advertising patronage. It is one of our hobbies that a paper should be conducted in the interests of its readers, and that advertising patronage should come as a natural sequence, for we believe that the paper holding the confidence of the reader, and admitting none but reputable advertisers, will not only be of value to the reader, but will also be a valuable advertising medium.

Possibly we may be in error, but time will demonstrate it if we are, and if advertising patronage is the *sine qua non* we shall feel called upon to announce that we are publishing "a journal for advertisers" rather than one "devoted to practical poultry and fruit culture."

We are not making this announcement for the purpose of driving away prospective advertisers, and we trust none will misconstrue our motives. We are in hearty sympathy with the fellow who advertises; we know from experience the position he holds, and our experience is not yet finished, nor will it be so long as we have anything (even a paper, or a chicken) to sell; and it is not our intention to belittle his calling nor detract from the value of what he purchases, but, on the other hand we shall try to conduct THE POULTRYMAN AND POMOLOGIST so that if he and his neighbors, his cousins and his aunts, should all decide to advertise there would still be left space enough in the paper to show, at least, the date of issue, and to air our own personal opinions of the matters of interest occurring within our limited field of knowledge. We should also provide space by expansion in number of pages so that our contributors could have their say, for somehow it has always seemed to the writer that when a 16-page paper has ten or twelve pages of advertising and two or three pages of puffs and reading notices, the rights of the subscriber are not properly recognized.

We see this condition, to a certain extent in the greater part of the papers and magazines of the day, and poultry or fruit papers are no exception.

Do the buyers and readers of papers appreciate it, or will a halt be called? Time will demonstrate this problem also; and in the meantime we shall conduct this paper along the lines here announced.

### A FEW BOUQUETS,

**For Which the Editor Bows his Grateful Acknowledgement.**

BEST WISHES OF A FRIEND.

"In our absence from home we overlooked the first issue of THE POULTRYMAN AND POMOLOGIST, a monthly, edited and published by Mr. G. P. Coffin, Freeport. Brother Coffin is a lover of good birds and an earnest student of the problem. *The Farmer* extends best wishes in his new venture."—*Maine Farmer.*

A HANDSOME PAPER.

We are just in receipt or the first number of THE POULTRYMAN AND POMOLOGIST, a monthly paper, published at South Freeport by George P. Coffin. As tne name indicates the paper is to be devoted to the culture of poultry and fruit. It is a handsome paper mechanically, and well filled with interesting matter, and we hope it the best of success.—*Turf, Farm and Home.*

A FAVORABLE COMPARISON.

Auburn, Me., Nov. 19, 1899.

Friend Coffin: I like your paper very much. I have seen nearly all the poultry papers that have started for the past ten years, and I think yours compares very favorably with any of them.

Yours truly,
A. L. MERRILL.

"A BEWITCHING PAPER."

E. Somerville, Mass., Nov. 20, '99.

Mr. Coffin: Allow me to congratulate you upon the splendid appearance of your initial number. If you continue to send out such a bewitching paper you should quickly captivate the poultry breeders wherever your paper goes.

With my best wishes for your success, I am Respectfully yours,
FRED B. COCHRAN.

"CERTAINLY A SUCCESS."

Machias, Me., Nov. 21, 1899.

Friend Coffin: The first copy of your paper is received, and I am much surprised and pleased at its make-up. It is certainly a success, as far as that is concerned, and I trust it will prove a success financially. Yours respectfully,
E. F. BARRY.

"A BRIGHT, HEALTHY-LOOKING BABY."

East Lebanon, Me., Nov. 23, '99.

Geo. P. Coffin: Dear Sir—THE POULTRYMAN AND POMOLOGIST is at hand, and is a good, smart, bright healthy looking baby. I wish you much success in your undertaking. There is no reason why a good, live poultry paper should not be a success in Maine.

Very respectfully yours,
W. H. SCOVIL.

IT WILL DO.

BOSTON, Nov. 28, 1899.

POULTRYMAN AND POMOLOGIST:

Enclosed find a quarter (25c) for subscription to your paper for one year. If all the other numbers are as good as the first, you'll do.

Very truly yours,
G. W. W. DOVE.

A PAYING INVESTMENT.

Canton, O., Nov. 24, 1889.

Publisher POULTRYMAN AND POMOLOGIST:

Here's a quarter thst I want to invest at 1200 per cent interest, with dividends monthly in the shape of a paper equal to the one now before me, which is certainly worth the price of a year's subscription, It is as full of sound common sense as an "egg is of meat," or a strawberry of juice, and served in a shape to be digested and assimilated.

Success and long life to you,
A. M. M.

---

Level roosts are generally accepted as the best, but still it is not uncommon to find the old style reaching from the floor to the ceiling. It is a fact that fowls strive for the highest place on the roosts, and the common reason given is that instinct teaches them that the higher they get the safer they are. Be that as it may, the fact remains unchanged as also the additional fact that the fowls give out considerable carbonic acid gas, which being heavier than the air, sinks to the floor, making it unhealthy for fowls roosting very low down. Besides the fighting indulged in by the fowls for the favored top of the roost perch, leads to much trouble, affecting the production of eggs. Moral: Have your perches on a level.

---

No one has a right to expect eggs unless the hens are in a bright, healthy condition; neglect neither food, exercise, cleanliness, nor protection; and then have a purpose in feeding, and feed for that purpose. Do not feed merely to keep the hens alive and to satisfy their hunger.

---

Subscribe for THE POULTRYMAN AND POMOLOGIST, 25 cents per year.

## NOTES AND OBSERVATIONS.

Considerable dissatisfaction has been expressed by several poultrymen who exhibited at the Maine State Fair this year, at finding their premiums scaled down ten per cent to meet expenses incurred in the other departments of the fair.

The improvements made in the other departments are noticeable, and the poultrymen appreciate it, but so long as they are obliged to exhibit their productions in the antiquated tomb like structure, and have the standard applied in its most rigid requirements, for the sake of saving money for the society, they do not show a great deal of enthusiasm over improvements which are costing them so much.

But as an answer to their complaint we have it told us that all the premiums (except trotting purses) were scaled pro rata. Be that as it may; the poultry department of the Maine State Fair is placed under greater disadvantages than any other department. The entry fee is exorbitant in proportion to the premiums (even at par value) as compared with other classes of live stock, and with the enforcement of rules against fowls in moult and out of condition of feather are of themselves enough to make the show diminish year by year, and the reduction of the promised premium money may serve to carry out the evident intention of the management of the past two years, which appears to be to legislate the poultry department out of existence. It is presumed that monkey shows and the dizzy spectacles of human foolhardiness are of greater importance to the management of an "agricultural fair" than are the products of honest toil and skilful breeding.

:::

As a sign of the times and an indication of what the future may bring forth, the attention given to poultry culture by the Experiment Stations and Agricultural Colleges points to a store of knowledge in an undeveloped field which may be of great importance to every poultryman. The Amherst, Mass., Agricultural College is just entering upon a series of feeding experiments and the results and conclusions will be given to the public. Here certain changes are contemplated in order to permit of more experimental work in poultry culture. At the Rhode Island College at Kingston a class in poultry culture is formed for a six weeks' course, and a number of applicants turned away because of lack of accommodations.

The poultry work at the Maine Experiment Station will be continued, and its results noted even though the results may upset the fine spun theories of our brethren in other states whose knowledge of successful poultry keeping was gained under different conditions than comfort the "Down East farmers" who keep poultry for profit.

:::

The annual meeting of the Maine State Pomological Society was a success in the broadest sense of the term. The addresses and papers were of great merit and practical worth and we hope the suggestions made therein may be adopted largely by the fruit growers of this section. We present this month the papers on "Strawberrfes for Profit," by Mr. E. W. Wooster, "Currants and Gooseberries," by Mr. A. A. Eastman, and the address on orcharding by Hon. Geo. T. Powell. These gentlemen have each achieved success in these lines of work, and present in a practical way the knowledge gained by their experiences.

### Goose Culture.

The interest in goose culture in New England is growing rapidly, as the farmers are learning the profits of the business. There are many acres of land that are hardly suitable for tillage, but which bear plenty of grass, swale hay, etc. Such places make admirable pasturage for the geese. Some of the finest Toulouse geese we have ever seen were raised in an orchard, and the greater part of the time had to content themselves with what water could be brought and poured into a shallow tub embedded in the ground. The geese took good care of the trees, and would not allow any of the windfalls to remain on the ground for the worms to develop, but apple, worm and all, was greedily devoured.

Where there is plenty of pasturage the geese will thrive without any grain feed, although we should advise an occasional feed in order to keep them tame. Managed in this way it is easy to see that the sum realized from the sale of the goslings is nearly all profit.

The Toulouse variety are very hardy, and are the best layers of the large members of the goose family, We have had goslings weigh 18 pounds each at three months old. Geese are practically free from parasites and disease, and do not require warm buildings, although if the early eggs are to be set it will be most profitable to give them comfortable quarters

The cut which adorns our first page this month represents a pen of Toulouse geese bred by Mr. Samuel Cushman, a gentleman who has had years of experience in this line of work, and was for some years in charge of the poultry experiment work at the Rhode Island experiment station.

This fine illustration of Toulouse geese was sketched from life at the last Boston show, by Sewell, the greatest poultry artist. In a large display coop, having water tank set in floor, the models, nine young Toulouse, sported in a most contented manner and dressed their own and each other's plumage to their hearts' content, keeping themselves in perfect condition. Their noble carriage and great size caused them to receive much attention and to be greatly admired. They were bred from the first prize Toulouse goose that had that season laid 47 eggs, from which 47 goslings were hatched, 37 of which had been raised. Mr. Cushman also exhibited in competition Embden and African geese. He won first and second on Toulouse goose, second on Toulouse gander, first on Embden gander, first on Embden goose, first and second on African gander, first and second on African goose. His geese have since won all firsts and seconds on old geese, all three varieties at Brockton and Rhode Island state fair, in strongest competition.

Mr. Cushman has raised hundreds of goslings the past season, as well as hundreds of Rhode Island Reds, on his small farm at West Mansfield, Mass. Many goslings have been dressed and shipped to Boston. Each sugar barrel sent to market weekly for many weeks brought him $32 to $36. Prices received have been 18c., 16c., and 15c. per pound. He raises many crosses that have white plumage for market; also dresses all inferior, off-colored and small specimens of his pure bred goslings and saves only the finest to supply his trade in exhibition and breeding geese. He sold many goose eggs for hatching last spring, and has this fall shipped breeding geese to all sections of the country. Maine, we are glad to say, has secured her full share of them.

### Economical Winter Rations.

Variety is required for producing eggs in winter, the same as in spring and summer. A study of the habits of hens, writes O. E. Brown, shows that they do best when allowed to select a portion of their daily allowance. Close observation will further show they are fond of nipping white clover leaves, green weed seeds, young grass shoots, and various other kinds of food of a bulky nature. They will leave grain for insect food. These facts should teach the poultry keeper how to make a balanced ration for egg production. In winter, when the flock is necessarily deprived of the natural requisities specified, the aim should be to supply as far as possible these essentials in some form or other. Clover has proved itself to be a most excellent bulky food, rich in nitrogen. Raw green bone takes the place perfectly of insect food. The clover should cut fine and scalded and the water drained off after it has cooled, then mixed with wheat bran and fed at once to the hens. It is a very suitable midday meal in winter. The shatterings from a mow of clover at the barn are excellent to use for the purpose. The raw green bone should be cut fine with one of the regular bone mills made for the purpose, and in winter an allowance of half an ounce every day to each hen will be sufficient.—*American Poultry Journal.*

It is the early hatched pullets, those that are well matured, before cold weather sets in, that make the winter layers. This is especially true of pullets of the Asiatic and American varieties. Pullets of the Leghorn varieties can be hatched later in the season and yet be matured and brought to the laying point by fall, and will, if given proper care, furnish many eggs during the winter season when eggs bring good prices. But for birds intended for breeding purposes one does not care to have them pass through an extended period of laying before their eggs are wanted for hatching purposes, as the best eggs for hatching, that is, those that produce the strongest chicks, those with the most vitality and vigor, are produced from eggs laid during the first half of a hen's laying season, after she has reached maturity, if a pullet, or after her period of moult if a hen, and the first 25 to 40 eggs from them at that period in their lives will generally produce stronger and more vigorous chicks than will be produced from eggs laid after this time. Such eggs are laid before a long continued spell of laying has begun to draw upon the vigor and vitality of the hen or pullet, and the chicks from such eggs are naturally of a more vigorous and healthy constitution than those from later eggs, so we should not select our breeders from females that have passed through a long-continued spell of laying, but should select those that have just reached the laying point, and are full of vigor and energy.—*Exchange.*

Do you want a nice vigorous Cockerel? Write to Scovil.

### The Amesbury Poultry Show.

The Amesbury (Mass.) Poultry Association held their sixth annual show November 22-24. It being the first score card show of the season brought out quite a string of fine specimens, which the judges, Messrs. I. K. Felch and H. B. May, gave some high scores. The highest score given any bird in the show was the White Wyandotte pullet owned by T. M. Bush of Amesbury; score 96.

There was close competition for highest score, as E. H. and S. H. George, Groveland, Mass., had a string of birds, several of which scored 95½ and 95. This firm captured the king prize of the show, a silver cup, value $30, offered for the ten highest scoring birds in the show. Besides this grand prize they won a number of specials and the following regular prizes: 1, 2, cock; 1, hen; 1, 2, cockerel; 1, 2, 3, pullet; 1, pen; 1, collection; a victory of which they may well feel proud.

In the large display of Barred Plymouth Rocks, W. B. Davis, Haverhill, won the lion's share of prizes, as follows: 1, cock; 2, 3, hen; 1, 2, 3, cockerel; 1, pen; and 11 specials, including largest display, best cock, ten highest scoring B. P. R., best cockerel, best exhibition pen. Such birds are not found every day, and Mr. Davis was justified in refusing the long price attached to offers for some of his specimens. The man who sells his best birds each year will not be "long in the swim," and Mr. D. cannot afford to let some other breeder have these birds to compete against him at the coming shows.

Mr. J. A. Hall, Atkinson, N. H., was present with some fine White Wyandottes, geese, ducks, etc., winning on White Wyandottes, 1; cockerel, 2, 3; pullet, 1; pen, 1; Embden Geese, 1; old pair, 1; young Pekin Ducks, 1; Black Austrian Ducks, best pair, 1 drake, 1 duck. These are a novelty, being as large as the Pekin, of very quiet disposition, of early maturity, and jet black in color.

A fine lot of White Leghorns were shown, and prizes divided among R. B. Smith, G. F. Hovey, Arthur Elliot and R. B. Hamilton.

Brown Leghorns were shown by M. H. Sands and C. G. Lamprey. A few Black Langshans were shown, W. W. Battelle winning 1 cockerel, 1 pullet, all other prizes going to H. J. Manley, Maplewood.

A good number of Rhode Island Reds were shown, and prizes awarded to D. W. French, H. C. Stevens and H. W. Gimston.

Among other prize winners were F. A. Quimby, William Osgood, G. F. Moylan, Dr. A. H. Pierce, William Collins, J. A. Bradley, W. E. Blaisdell, W. H. Willis, H. J. Price, C. H. Janorin, W. M. Shaylor, C. E. Marshall, S. O. Kent, W. F. Tucker, A. H. Leach, W. W. McIntyre, E. S. Tappan, Barnes & Woodbury.

In point of attendance (spectators) the show was small; in point of excellence of exhibits it was great. We must expect to see some grand birds this season if those at Amesbury are a fair sample of the year's product.

We extend to the management of the association our sincere thanks for courtesies received.

Do you want a nice, vigorous Cockerel? Write to Scovil.

### Apple Storage.

Proper storage for fruit is an important adjunct of the apple growing business. In certain circumstances it is indispensable.

For this reason apple growers have given considerable attention to the construction of storage houses and to learning the best methods of keeping the fruit. From information collected and sent out by the horticulturist of the Vermont experiment station, it seems that apple storage houses are becoming rather common in the principal apple growing sections of Vermont, particularly in Grand Isle county.

These houses are built without means of artificial refrigeration. They can be kept cool enough from the out-side atmosphere, and can usually be kept warm enough if the walls are carefully built. A small stove is usually kept in the storage house and is called into use on specially cold nights.

Old barns or granaries are sometimes converted into apple storage rooms. A good cellar is occasionally used to advantage. Adequate protection from cold weather and suitable ventilation are the principal requisites.

The most important condition in storing apples is the temperature. The storage room should be kept very near the freezing point, ranging preferably from 33 to 35 degrees Fahr. Even a degree or two below freezing will ordinarily do no damage. Temperatures which will ruin potatoes and other vegetables are entirely favorable to apples; and conversely, temperatures which are suitable to potatoes are too high for apples.

This last consideration explains why a great many folks have difficulty in keeping apples in their cellars. The same cellar which keeps vegetables perfectly will not give best results with apples.

This is something to which every farmer especially ought to give attention, for every farm certainly ought to raise apples enough for the family. Even if there is no fruit to sell, there ought to be enough to furnish a full supply throughout the winter.—*Vermont Experiment Station.*

### Manuring the Orchard.

Late in the fall and early in the winter are among the best times to haul out and apply manure in the orchard. By applying at this time it will act in a measure as a mulch, protecting the roots of the trees from alternate thawing and freezing. Again, by applying the manure at this season the rain and melting snow, with the thawing and freezing, will carry the soluble portion of the manure into the soil ready for the use of the plants in the spring when they start to grow. Broadcasting the manure is best, so as to enrich the whole surface of the soil. But if the quantity is insufficient to do this, the next best plan is to scatter under the trees as far out as the branches extend, as with trees generally, the roots extend as far as the branches. It is never advisable to pile the manure close up around the stem of the trees, as this not only injures the bark, but affords a hiding place for mice, that, if given the opportunity, will gnaw the bark of the trees.

It is an item to scatter the manure as early as possible. While well rotted manure will usually give the most immediate results, yet all things considered the best plan of management is to haul the manure direct from the stables and sheds, as this lessens materially the work of handling.

So far as can be done during the growth of the trees, the soil in the orchard should be built up so that by the time the trees come into bearing the soil will be reasonably rich.

It is very essential if the best quality and quantity of fruit is grown, that the soil be reasonably rich, and the best plan of reaching this is to apply manure during the growth of the trees, and if there is a supply of manure, now is a good time to do the work.—*Farmers' Magazine.*

### Importance of Spraying.

"It has come now to be understood and acknowledged by all authorities that, given a good location, proper varieties, cultivation, fertilization, and all other necessary attention, unless insects and diseases are combatted, the orchard will be little better than a failure," says the Ohio Experiment Station.

It does not need a prophet to foretell the necessity of the spray pump in the future. It has become, and will remain a necessary part of the orchard outfit. Insects and diseases have periods of greater and lesser activity, but as long as uncared-for orchards remain as nurseries for these pests there must be a constant warfare on the part of those who make fruit growing a business.

The orchardist of the future will not count upon wormy apples, and trees defoliated by the canker worm as an incident of his business. It is true that we have our neighbors' as well as our own codling moths to combat, and we often find it uphill work but our efforts count for something, and improved methods will come sooner or later. The canker worm is amenable to arsenic, rightly applied. The apple scab, which debilitates the foliage and disfigures the fruit, often causing an entire loss of crop, is the worst apple enemy of all.

In the Bordeaux mixture we have a sure remedy, and even should there be nothing better discovered we need not fear for the future.

Don't expect to get remarkable egg yields without working for them. The professional poultryman who gets three times as many eggs a year as does your farmer neighbor is reaping the benefit of knowing how. That is, he breeds for eggs, "beginning with the grandmothers"—and he not only breeds for eggs, but he hatches for eggs, and he feeds for eggs until, like the farmer who makes two blades of grass to grow where one one grew before, the egg man makes his hen to lay two eggs where the other fellow's lays but one—or maybe none at all.—*New England Farmer.*

At the Lynn, Mass., Poultry show, Jan. 10-13, there is to be an exhibition of dressed poultry and eggs, for which special premiums are offered. This society is offering extra large premiums this year, and a large and fine exhibition is expected. William F. Craig, secretary, Lynn, Mass., will send premium list upon application.

If orchards are to be made profitable they must be made to receive as good care as any other crops.

Scovil's Buff Rocks are winners.

## New Problems in Orcharding.

From the address of Hon. Geo. T. Powell, of Ghent, N. Y., at the Maine Pomological Meeting.

Certainly there are great problems before us who are seeking to study pomology, as well as those of other occupations. We are meeting the solution of some of these problems in the competition of the past few years. The Eastern farmer has found himself forced to study what he can do with his land to make it yield more than formerly.

Touch the horticultural interests and grave questions confront us, but these are to be overcome by our skill and application. We meet in our own markets the products of the great West and South, but we must meet to conquer, there is no other way for us, and best of all we can conquer if we will. The attractiveness of California fruits and the manner of packing leads buyers to prefer them because of the condition in which they reach the consumer.

### SELECTION.

As we contemplate extending orchard culture in New England we must appreciate what is involved and prepare to compete with the California grower. Early maturity must be studied. Our best efforts must be put forth at every step. How can we shorten the time in which we can bring trees into bearing? Ordinarily 8 to 15 years are necessary after setting. Can this be shortened? Yes Recognize the same principle as in animal life, especially the law of heredity. We understand propagation, but our practice has been faulty. We graft or bud in the rows. In this we surely strengthen the purpose to grow wood. Select buds and cions from mature stock, trees which came to bearing early and are healthy and rugged. Remember there is individuality in trees, and study this in selecting propagating stock.

For stock to graft always study constitution. Select buds from a typical tree, one growing right form and quality of fruit, uniformly good throughout the entire tree. This was my policy, and as these trees so grafted came to bearing, further selection was made for further experiments. Out of 100 so treated I found only two from which I could select buds, simply because the rest lacked in some important feature. We must select our breeding trees as you select your breeding animals. Fruit of large size of Sutton Beauty, from trees top-worked three years ago, together with branches, were shown, the tree producing more than two bushels of fine apples.

There is no question but one-half of the time will suffice to bring our trees into good bearing condition, simply by conforming to the law of selection as you do in the development of good cows. If we can in this way meet what the natural conditions of the South and Far West demand, it is a policy upon which we should enter without delay. Along the lines of plum culture the same work will bring the same results. Prunes are being successfully cultivated in New York and New England, but we must hasten the growth. Choose some hardy tree like the Lombard for a base to push forward the growth of the prune, giving fruit in ten years.

Set your trees in fall or spring, and when in July or August buds are fully set, secure supply and insert in branches of your Lombard. The following spring cut away the plum limbs, leaving only the prune buds, and allowing the full force of the rapid growing stock of the plum to push forward prune development. The same can be done to peaches, bringing them to good bearing the third year. This comes from a high system of tillage as well as proper selection of stock. We can put ourselves on a footing where we can meet and compete with the grower of California. Quality is ours in preference to any other spot on the earth, and with this one factor comes more and more to be considered by us as to how we can hasten growth and promote early bearing.

Another point is the possibility of better knowledge of proper fertilization, cross fertilization and hybridization, and what can be gained thereby, selecting specimens having qualities desired, and so building up varieties adapted to our climate. When you plant fruit trees do not plant single varieties in great blocks; break up the circle and permit the complete fertilization which comes from the free mingling of the fruit pollen.

### QUALITY.

The more wealth increases the greater the demand for fine things. Would-be fruit growers must recognize this, and grow for fine quality. Attractiveness and quality will solve the question of consumption, and find ready sale for our fruit.

The fear of over-production still holds, but unfortunately too many plant simply to grow and produce apples in quantity. Never plant a Ben Davis, for it never will satisfy the consumer. It looks all right, but quality is wanting. Never grow an apple of inferior or simply fair quality. Grow the best; for here is the profit.

### TILLAGE.

I notice everywhere neglect of the orchards. Trees are set and left to themselves. If we are to take our place in markets at home and abroad, we must prepare the ground thoroughly, give continuous culture, think of growing apples only, put away the thought of growing hay or potatoes in the apple orchard, and bend all efforts in one directions. I look upon tillage as the second important factor in early development. High tillage alone can insure early maturity. It enables us to supply the plant food needed in right condition; it also enables us to ensure its perfect liberation. More than this, it insures all the moisture there is in the soil. The orchards in grass this year, untilled, will be found with few fruit buds for 1900. Tillage gives promise of a great crop next year. Ordinary tillage gives us low state of vitality simply because the nourishment has been imperfect. A persistent, systematic system of tillage alone will insure the crop we so much desire.

Tillage serves first to liberate plant food. There is no worn out soil; its food simply wants to be liberated. Constant cultivation prevents the escape of the moisture in the soil. Between wet and dry seasons, give me the dry every time. If I can give the cultivation I care not it we have no rain while the crop is growing. I court the dry season. Study to conserve moisture by constant stirring of soil. This conservation is aided by the use of green crop turned under. My experiments have been with crimson clover. Unless conditions are right in our soil we waste the money paid for commercial fertilizers. We must incorporate plant food in the form of green crops. For eight years I have used crimson clover.

The incorporation of a large quantity of humus from this clover gave to the soil an abundance of water during a drouthy period like the past season. Take this clover, or some other plant adapted to your climate, and within a few years rapidly bring back the nitrogen and other elements wanted, as well as protect the water supply. Cultivate until the weed-growing season closes, and then cover rapidly with the clover, peas, or some crop to be turned under the next spring. If you will grow the seed of the crimson clover you can grow the crop. It is being done, and can successfully be done again in the future. You can have all the advantages of tillage, and then produce the crop to cover the land and furnish the humus with which to forward the rapid growth and bearing of your trees.

Extend the orchards in your state along the line of careful selection of parent stock, by budding or grafting from typical trees, and then push to maturity by thorough tillage and the growing of clover or peas to be plowed under. Make the perfecting of large crops of fruit your chief object, and allow nothing to swerve you from the one purpose, that of putting on the market choice fruit, fully equal to or a little better than can be produced elsewhere.

---

## Roup.

The first symptoms of roup, usually unobserved except by the most careful observers, consist of a wheezy breathing, which is most noticeable while the fowls are on their perches at night, a slight discharge from the nostrils and a slight coating in the throat. Roup at first is simply a cold or catarrh, and, like a cold in human beings, develops in different ways. In the more advanced stages the head swells, the eyes exude a frothy matter and often becomes closed, the throat is putrid and the breath has a vile odor. The head is hot and the desire for food is gone. In stages at all advanced tde best remedy is the ax, and the carcass should be buried deep.

The causes of roup are damp and filthy quarters, draughts, accumulation of droppings under the roosts, exposure to cold storms impure drinking water, a lack of sufficient nourishing food or a balanced ration, and, it may be, a too exclusive use of corn. It is also claimed that roup is a blood disease and is, therefore, transmitted from roupy fowls to their offspring, While we are not inclined to believe this to be true, yet we would not encourage the breeding of roupy fowls. Strong, healthy fowls are less liable to attacks than those weakened by disease, in breeding or other causes.

We have repeatedly said that roup in its bad stages is incurable, and the best plan, therefore, is to remove the causes and thus prevent its appearance. If, in the earlier stages of the disease, a piece of copperas the size of a kernel of corn to a pailful of drinking water be given, it will be found to be excellent as a tonic and a disinfectant. A weak solution of carbolic acid answers the same purpose as a disinfectant without being a tonic.—*Midland Farmer.*

---

We want an agent for subscriptions in each poultry show this season. Here is an opportunity for a hustling representative in each section to make good wages while attending the show. Write for particulars.

## Currants and Gooseberries.

The following address was delivered at the annual meeting of the Maine Pomological Society, by Mr. A. A. Eastman of Dexter Me.

The frost and the drought of the present season may lead some of us who are engaged in small fruit culture to look on the dark side and to feel that we have more to contend with than any other class. Let us now reverse this order and for the time being put aside all our discouragements and consider some of the reasons why we should congratulate ourselves that we are fruit growers. It is a business that benefits all classes and injures none. It is almost the only business in which a poor man can engage and be his own employer. They are not liable to be thrown out of employment.

Fruit growers have more leisure than most working people. In the winter they can take time to plan for the next season and get everything ready for work; they can attend important horticultural meetings, doing good and getting good; and just here is a point worth noticing; fruit growers have no secrets. The proceedings of their meetings are published to the world.

Fruit growing does not require as great an outlay of physical strength as other modes of farming. There is but little hard work connected with it and for this reason it is a suitable occupation for those who are not able to engage in farming, market gardening, or any employment which involves much hard work. Old men, women, invalids, and children, may spend their little strength in fruit growing and be successful.

Small fruit plants are set out for a special work; that is, to send their roots through every inch of the soil in search of plant food and, having found it, to change it into fruit, Our part is to prepare the soil, set out the plants, and see that they have the best possible care to do their work. No part of fruit culture is of more importance than a knowledge of varieties, and this must be learned in part by each one for himself. A person with little or no experience should commence in a small way and confine himself mainly to such varieties as are known to do well in all soils and localities. If every one would prove all things and hold fast that which is good, nusery men would receive few curses, and fruit growers make more money as a rule. Every one should raise his own plants and bushes, except new varieties, which he wishes to test. In this way he is sure to have plants fresh, well grown, and true to name, besides saving heavy express charges.

As a rule currants and gooseberries are largely overlooked by many of our fruit growers and farmers. They are worthy of a place in the small garden as well as the larger. The fruit can be used in a green state or when ripe, and it does not require a great amount of skill to grow them.

The habits of growth of currants and gooseberries are very much the same, and require the same treatment in their cultivation. Currants and gooseberries are northern fruits which absolutely refuse to do their best in a southern climate. There is no fruit grown with us that will bear as much neglect or that will respond more quickly with first-rate care and cultivation as the currant and gooseberry. They are the only ones of our garden fruits that will endure our most severe winters and come out in the spring without a damaged bud.

In selecting ground for these fruits a moist piece, well under-drained with stone drains, is desriable. That lets the surface water down out of the way that is liable to stand on the surface and damp out or kill the fruit plants, if you do not under-drain. Currants, gooseberries and raspberries do the best in this soil. They want a cool, moist place to produce large, fine fruit, although they do very well in dry soil. Our fruit is composed mostly of water and where our soil is moist we get large, fine crops. If your land is in the sod, plow and till the land with a hoed crop one season; and when the crop is off in the fall or the first of September, fix the ground. Have it rich, mellow, and in good shape.

In setting out plants use a garden line so to have your rows straight, and set the plants in rows six feet apart, and in the the row five feet feet apart, and when they get grown up they will need all the ground themselves. The first two years after the plants are set out you can plant corn or other hoed crops.

In setting currants and gooseberries, set them deep in the soil; they will not bear fruit unless you do it. In setting deep you get a larger amount of roots and the larger the crop will be. In setting the plants in the hole fill partly with soil and then put in some old dressing, or any dressing you may have, and then cover over this dressing with soil two or three inches, as you may see fit to do.

By setting in the fall, say in September, you gain a great deal of time. In taking up plants to reset you break off a large amount of their fine roots. By setting early in the fall, new roots will grow until the ground is froxen deep and in the spring they will take hold and grow and you will hardly believe they were transplanted in the fall before, so you see we get almost one year's growth by doing this work.

Currants and gooseberries are gross feeders and if you want to get a large crop you must feed for it, and it will surely come. You must not think of getting something for nothing in the fruit business; if you try this you will surely make a failure. This is why so many people make a failure in the fruit business.

To succeed in the fruits we must use lots of dressing for fertilizers. Use barn dressing in dressing your currants and gooseberries, and be very liberal with it. Don't be afraid of it, it will pay better than a small dose and this means a small crop of fruit, poor in quality and poor price also.

For mulching our fruits I use straw, swale leaves and forest leaves. All are good, but swale hay lasts longer than straw or forest leaves. Forest leaves will keep down the weeds better than any other mulching but you must be very liberal with mulching in order to get any benefit from it, This will keep the ground moist and weeds down and saves a large amount of hard work in hoeing and keeping the fruit clean, while the bushes lie upon the ground with their heavy loads of fruit.

In preparing for winter protection, first, we do the farming; cut out the old wood that has done its duty and is dying with old age and a part of the new suckers—leave from two to four on each bush. You get the best fruit from new wood and young bushes. After this work is done then tie them up or draw them together with a string, this keeps snow and crust from breaking them down. In the spring cut the string and let them loose for their summer's work.

For poison for the currant and gooseberry worms, I use London purple. I like it the best; it is light; it does not sink in the water like some other poisons; it is cheap and a pound will go farther than twenty pounds of hellebore. I mix a pound of purple to about two hundred and fifty gallons of water and use it in a knapsack sprayer. One or two good sprayings will put a stop to their bad work. You must keep a sharp lookout for the worms or they will strip your bushes in a short time and the fruit will be small and poor.

Some of the later kinds of currants and gooseberries are the ones to raise, I think, but many others are just as good. For market we must raise what we sell the best and brings the most money with least expense and labor. Of the currants for markets I think the Fay's Prolific takes the lead. It sells the best of any, but for family use we like the white grape; they are nearly as large as the Fay's and very much sweeter.

For gooseberries I like the Downing, a very heavy bearer, selling in the markets as well as any other kind that I know of.

Currants and gooseberries come into bearing at three years old, and will bear fruit quite a good number of years with good care, but I can get what there is in them from six to ten years by dressing heavily. We get best fruits and larger crops from young bushes; old bushes get feeble after they have done their duty and soon die.

In propagating currants by cutting, take the tips of new wood six inches long and stick them down in the soil the whole length in a rich place in the fall. When the freezing nights come cover them up with some coarse dressing or boughs for winter. In the spring take off the boughs if you use them, but the dressing you may leave on. Gooseberries won't take root from cuttings but you may bend a cane down and cover it over with dirt and it soon takes root. After one season's growth you can transplant it where you like.

---

## Strawberries for Profit.

E. W. Wooster, at the Maine Pomological Society Meeting, Nov. 17.

The first thing to be considered is the selection and preparation of the ground. If green-sward is to be used one must need look ahead at least one year before planting it to strawberries; if the sward is very heavy, on rather low land, it will need be planted to some hoed crop for two seasons, and given thorough clean culture to kill the weed seeds and clean out the white grub, which are almost sure to badly infest such grounds. The best hoed crop to give clean culture is the potato; but the fact that it is a heavier feeder on potash, like the strawberry, than most other crops and more liable to get rust spores to the soil, makes it less valuable in these respects. The extra potash I can supply with the chemicals, and the rust, try to fight down with natural and artificial remedies.

The best selection of ground however, that can be made for the strawberry is when it is taken right from the green stump. Such soils are found to possess elements of fertility more agreeable to the perfect development of this fruit than can possibly be given to old ground. The first cost of fitting such ground to receive the plants is great but the first year's fruiting will more than pay for the extra cost. Ground should be selected both from upland and low-land when possible, and of a variety of soil to suit the variety of strawberries to be planted; or, when more

convenient, select your variety of strawberries according to your soil. Such strong growing varieties as the Crescent, Beder Wood and Warfield do better on upland shale and rocky soil, while such shy running and heavy foilage varieties as the Bubach, Glen Mary, Ridgeway and Parker Earle do better on heavy soils.

Perfect drainage must be carefully looked after. On low flat land both good under and surface drainage must be given, on upland good surface drainage only is necessary that the water during the time that the earth is frozen may pass off quickly before it freezes and smothers the plants. The ground should be back-furrowed into narrow beds like a good road bed—the highest part in the middle.

As to the kind and amount of fertilizer, as well as its time of application, much depends upon the condition of the soil, its natural richness, and the variety of strawberry, and let me say right here that this fertilizing question is the most important, and at the same time, the most difficult question to be considered. Upon its correct solution largely depends the profit of the business.

I depend almost wholly upon commercial fertilizers and chemicals, and new soil. Fifteen years' of experience have taught me, that for fruit these are much better than stable manure, but if I were growing plants for market more exclusively than for fruiting, and was after quantity more than quality, stable manure would be just the thing. All varieties require much potash to give firm high-colored fruit; the softer the variety the more it requires. Varieties that have a weak foliage require more nitrogen than those with a heavy foliage. The varieties should be selected from those that are known to succeed well in the locality, and selected from the earliest to the very latest so as to make the season of fruiting as long as possible. The plants should be from the very best high-bred stock that can be found near the locality. The best plants are grown on new land rich in potash and humus, and there is no necessity whatever of their being the so-called "pedigree" plants. Plants that are forced by an excess of nitrogen and water into a rank top growth and allowed to mat thickly as the hairs on a cat's back, are not fit to set. I set thousands of plants every year that I could not afford to sell for ten dollars per thousand, because they pay me much better than that to remain where they grew and fruit; but experience has taught me that I could not well afford to set plants of less value.

Unless the season is well advanced it is not best to set the plants at first where they are to remain. They should be taken up and all the old foliage trimmed off and the roots shortened to about four inches and heeled in rich, fine, dry soil. Dig a trench five inches deep, a little stanting on one side, against this slanting side lay the plants about three inches apart with the roots spread out fan shape and press the earth against them firmly, then six inches from that row dig another trench and proceed as before. In doing the work be sure to set the crowns of the plants all even with the top of the soil and see that the roots are wet with muddy water. Plants so treated can remain for a month or more before being planted out to the open ground, and when planted will not stop growing in the least.

While in these beds they should have plenty of water till a few days before they are taken up, when they shonld be kept dry to a point of almost wilting. When taken up they should be dipped in water and planted at once. Plant them in the field in rows three feet apart and from one and a half to two feet apart in the rows. Cultivate and hoe often allowing them to form a closely set, very narrow matted row, treating all extra number of plants as weeds. The nearer you can get and keep your rows to a single file hedge the better.

Never undertake to prepare your ground in the spring till it is dry enough to work up fine. It is not too late to plant strawberries in Maine, if planted the way here described, the last of June. As fine a bed of strawberries as I ever had was planted on the 2nd of July. My advice is, however, plant as early in the spring as you can get your ground good and ready.

A little phosphate containing a large per cent of nitrogen should be scattered along the line of the rows and well raked in, and after the plants are set scatter a great spoonful in a ring around each plant about six inches from it. This phosphate sowing should be repeated some half dozen times during the growing season, but after you have all the plants you wish rooted, then a brand should be used that has much potash, add the last application late in the fall, muriate of potash at the rate of about 250 lbs. to the acre. Never sow chemicals when the foliage is wet or allow any to remain long upon the foliage at any time. Keep up cultivation till the ground freezes, and then begin to cover. Straw, thatch, swamp hay and moss make a good mulch, and all but the last a good covering if not put on too early and too heavily. Evergreens make the very best winter protectors, that is, of anything that is artificial. Snow is Nature's covering, and of course the very best while it is in place, but it is never reliable along the sea coast of Maine either in coming or staying qualities.

In the spring the evergreen boughs, of course, must be removed, but the mulching material may be allowed to remain except over the plants, where it should be lighted up and where too heavy a part of it removed to the alley ways. The whole surface between the rows should be well mulched, for four very important reasons. It preserves the moisture to the soil, prevents the soil from washing badly and from being beaten down hard from the effects of heavy rains, thus allowing more water to pass into the soil during the refreshing summer showers. In a dry summer like the last the advantage is very great. It keeps the fruit free from grit, and gives a glossy appearance, keeps down the weeds and greatly lengthens the fruiting season. By mulching the crop will be much larger, berries average larger and more beautiful and bring a higher price.

Now we come to what I call the commercial department of fruit growing; before we had to more specially consider the plant and its requirements. The most important requirement is pleasing the eye, and strange as it may seem, taste is among the last requirements with the majority. To make these large, beautiful berries more pleasant to the eye they should be carefully graded into clean, new packages. Every package should be so graded that your name upon the package will stand as a guarantee that the package contains just what is marked thereon. In doing a business of considerable extent, in order to insure this, you must need school your pickers carefully. Thoroughly educate them to the mark of proper grading, and impress upon their minds the fact, that in working for the interest of their employer they are also working for their own. Weed out all those who will not appreciate the advantage in doing this and stimulate the best work by giving extra pay for extra work done. Pay off your pickers once each week.

Establish a line of customers whose business methods have given to them the best trade and they will appreciate your efforts in trying, through them, to satisfy the requirements of that trade. Never have anything to do with men of slack business habits. Pay all your debts promptly and encourage the same promptness in those with whom you deal; you can afford to lose the patronage of a customer who will resent being urged to pay a bill that is much overdue.

Keep well in mind the old but true saying: "Short settlements make long friends." Try to be systematic in all you do, for besides greatly facilitating your labors it acts as a medium of advertisement greatly to your advantage. Be cosmopolitan in all your acts, no business man can well afford to do what the world would call mean in small things. Keep in mind at all time "That the world does move," and that the line of march is towards progress and improvement. Keep an eye out at all times for a good thing, and like Capt. Cuttle, be able to "know it when you see it." Attend strictly to business at all times and in order to do this, you must of a necessity, form steady habits.

Let rum and tobacco severely alone; besides poisoning your own system and morals, it has a contaminating influence over your young employes and gives off fumes not agreeable to the delicious odor of the strawberry. To cover over all establish this motto, and follow it out closely: "Never omit an expense that would yield a profit in its broadest sense, and never indulge in one that would not. This calls out the exercise of the best judgment you can command. See to it that the judgment is ripened by the lessons of experience gleaned along life's pathway; try to find out that which we do not know by making the best use of that which we do know. Always question "Why" and try hard to find out the correct answer. This is the synopsis of "How to obtain a profitable crop of strawberries."

---

### Rough Bark on Old Trees.

The gradual thickening of bark on trees is often objected to as an evidence of unthriftiness. But it almost always comes on trees when they get to be of bearing age, and except for harboring the cocoons of the coddling moth it does no harm. Scraping this bark off through the winter removes the protection, and the cocoon, exposed to rain and snow, perishes. These cocoons will usually be found on the side opposite where the prevailing wind blows, as this is partly protected against beating rains, especially if the tree leans that way. Only the bark that readily comes off should be removed. Scraping the trunk down to the green bark will cause some kinds of trees to sun scald and is injurious. Make the tree grow vigorously and the rough bark will roll off of itself or with very little effort.—*Exchange.*

---

Start the incubator early. Have the first broods ready for market in March and April, and the February and March hatched pullets for early autumn layers.

## Orcharding.

### SELECTION OF STOCK AND VARIETIES.

(Written for the Poultryman and Pomologist.)

One may obtain his stock of trees from three sources. Volunteer trees found in pastures and by the roadsides are of very little worth; the majority of them will be either gnawed by mice, causing bad scars, or badly damaged by borers. The snow, when the tree was small, may have split off the limbs or broken the top down so that it is blackhearted, causing a short-lived tree for the orchard. Seedling stock, as obtained in the small nurseries, many times fail to respond to our care and expectations, from lack of early care in the nursery. The writer has some very fine stock of this kind that have been grafted to Baldwins, yet he can show fully as good stock that has been reworked on the Ben Davis and Spies, the stock having been obtained from the New York nurseries; so to one who is about to purchase trees for an orchard our advice would be to obtain them from some reliable firm who makes that their business. New York trees that are not over three years old are the best and can be obtained at very reasonable prices.

In the selection of varieties there are many circumstances peculiar to market, soil and location to be decided by the orchardist, but for the orchard as located in my former letter one cannot do better than to have the bulk of the stock Spies, Tolman Sweet and Ben Davis, the last to be reworked into Baldwins. There may also be a good share of Fameuse, Duchess, or Alexander, which may be sent to market if the crop is light and prices right; if not they should be canned or evaporated, thus giving work stormy days that can be turned into good money to keep the balance on the right side.

One of the great mistakes made by those who are just beginning in the business is to have too many varieties, but the farmer who is to set out a thousand trees would not be so thoughtless of home interests as to set only for market. There is nothing I enjoy better than to see my children select their apples, one at least of each kind, pockets all full and two in each hand, as they start for school.

RICHLAND.

## FIFTY DAIRY RULES.

These rules, originally issued by the Bureau of Animal Industry, were handed us by Mr. B. F. Dennison, an experienced creamery manager, who recommends their adoption by every farmer:

### THE OWNER AND HIS HELPERS.

1. Read current dairy literature and keep posted on new ideas.

2. Observe and enforce the utmost cleanliness about the cattle, their attendants, the stable, the dairy, and all utensils.

3. A person suffering from any disease or who has been exposed to a contagious disease, must remain away from the cows and the milk.

### THE STABLE.

4. Keep dairy cattle in a room or building by themselves. It is preferable to have no cellar below and no storage loft above.

5. Stables should be well ventilated, lighted and drained; should have tight floors and walls, and be plainly constructed.

6. Never use musty or dirty litter.

7. Allow no strong smelling material in the stable for any length of time. Store the manure under cover outside the cow stable, and remove it to a distance as often as practicable.

8. Whitewash the stable once or twice a year; use land plaster in the manure gutters daily.

9. Use no dry, dusty feed just previous to milking; if fodder is dusty sprinkle it before it is fed.

10. Clean and thoroughly air the stable before milking; in hot weather sprinkle the floor.

11. Keep the stable and dairy room in good condition, and then insist that the dairy, factory or place where the milk goes be kept equally well.

### THE COWS.

12. Have the herd examined at least twice a year by a skilled veterinarian.

13. Promptly remove from the herd any animal suspected of being in bad health, and reject her milk. Never add an animal to the herd until certain it is free from disease, especially tuberculosis.

14. Do not move cows faster than a comfortable walk while on the way to place of milking or feeding.

15. Never allow the cows to be excited by hard driving. abuse, loud talking, or unnecessary disturbance; do not expose them to cold or storms.

16. Do not change the feed suddenly.

17. Feed liberally, and use only fresh, palatable feed stuffs; in no case should decomposed or moldy material be used.

18. Provide water in abundance; easy of access, and always pure; fresh, but not too cold.

19. Salt should always be accessible.

20. Do not allow any strong flavored food, like garlic, cabbage and turnips, to be eaten, except immediately after milking.

21. Clean the entire body of the cow daily. If hair in the region of the udder is not easily kept clean it should be clipped.

22. Do not use the milk within twenty days before calving, nor for three to five days afterwards.

### MILKING.

23. The milker should be clean in all respects; he should not use tobacco; he should wash and dry his hands just before milking.

24. The milker should wear a clean outer garment, used only when milking, and kept in a clean place at other times.

25. Brush the udder and surrounding parts just before milking, and wipe them with a clean, damp cloth or sponge.

26. Milk quietly, quickly, cleanly and thoroughly. Cows do not like unnecessary noise or delay. Commence milking at exactly the same hour every morning and evening, and milk the cows in the same order.

27. Throw away (but not on the floor—better in the gutter) the first few streams from each teat; this milk is very watery and of little value, but it may injure the rest.

28. If in any milking a part of the milk is bloody or stringy, or unnatural in appearance, the whole mess should be rejected.

29. Milk with dry hands; never allow the hands to come in contact with the milk.

30. Do not allow dogs, cats or loafers to be around at milking time.

31. If any accident occurs by which a pail full, or partly full of milk becomes dirty, do not try to remedy this by straining, but reject all this milk and rinse the pail.

32. Weigh and record the milk given by each cow, and take a sample morning and night, at least once a week, for testing by the fat test.

### CARE OF MILK.

33. Remove the milk of every cow at once from the stable to a clean, dry room, where the air is pure and sweet, Do not allow cans to remain in stables while they are being filled.

34. Strain the milk through a metal gauze and a flannel cloth or layer of cotton, as soon as it is drawn.

35. Aerate and cool the milk as soon as strained. If an apparatus for airing and cooling at the same time is not at hand, the milk should be aired first. This must be done in pure air, and it should then be cooled to 45 degrees if the milk is for shipment, or to 60 degrees if for home use or delivery to a factory.

36. Never close a can containing warm milk which has not been aerated.

37. If cover is left off the can, a piece of cloth or mosquito netting should be used to keep out insects.

38. If milk is stored, it should be held in tanks of fresh, cold water (renewed daily), in a clean, dry, cold room. Unless it is desired to remove cream, it should be stirred with a tin stirrer often enough to prevent forming a thick cream layer.

39. Keep the night milk under shelter so rain cannot get into the cans. In warm weather hold it in a tank of fresh cold water.

40. Never mix fresh warm milk with that which has been cooled.

41. Do not allow the milk to freeze.

42. Under no circumstances should anything be added to milk to prevent its souring. Cleanliness and cold are the only preventatives needed.

43. All milk should be in good condition when delivered. This may make it necessary to deliver twice a day during the hottest weather.

44. When cans are hauled far they should be full, and carried in a spring wagon.

45. In hot weather cover the cans, when moved in a wagon, with a clean wet blanket or canvas.

### THE UTENSILS.

46. Milk utensils for farm use should be made of metal and have all joints smoothly soldered. Never allow them to become rusty or rough inside.

47. Do not haul waste products back to the farm in the same cans used for delivering milk. When this is unavoidable, insist that the skim milk or whey tank be kept clean.

48. Cans used for the return of skim milk or whey should be emptied and cleaned as soon as they arrive at the farm.

49. Clean all dairy utensils by first thoroughly rinsing them in warm water; then clean inside and out with a brush and hot water in which a cleaning material is dissolved; then rinse and, lastly, sterilize by boiling water or steam. Use pure water only.

50. After cleaning, keep utensils inverted in pure air, and sun if possible, until wanted for use.

---

A small flock, with plenty of room and well-cared for, will yield larger returns than a large flock left to shift for itself or crowded into small quarters. Keep only the best of the flock for breeding purposes. Aim to improve, not to retrograde.

### The Fancier a Practical Poultryman—Necessity Compels Him to be One.

The time was when to say one was interested in the practical, would completely shut him out from the throughbred trade. But each year has driven the fancier to become, in part, a poulterer, and the poulterers or practical breeders, as we now term then, have come to know that the profits largely depend upon raising none but straight, thoroughbred stock, and indulging only in first crosses for practical demands. Thus have we seen the fanciers becoming poulterers, and the poulterers fanciers—and both have been the gainers thereby.

The fancier, at the present day, cannot sell more than 60 per cent of his product for throughbred purposes, and in all the American breeds, except White Wyandottes, we cannot say that more than 40 per cent of the product satisfies first-class breeders as breeding and exhibition stock; while Light Brahmas, White Wyandottes and White Leghorns may produce 75 to 90 per cent of first-class birds. On the other hand, the poulterer caters to the poultry and broiler demand, so far as the males he raises are concerned, but that he may sell his females to the fancier adheres strictly to thoroughbred stock, and mates so as to secure the largest number of females, to score the greatest number of points. This gives him an added profit upon such as he sells to thoroughbred trade. Thus you see the two wings of the poultry industry becoming more and more closely allied in their interests.

The fancier is doing the advertising that is building up the poultry industry; the poulterer is saving the money the other pays for advertising, content to have the fancier for his customer for his likely and high-scoring females, while he sacrifices to the market demands his male product. It is a question which is making the most money and which position is safest to occupy. Their relations are closely linked. They in future must stand together, or every breeder will be forced into the position to represent both branches of the poultry industry.

I have seen this state of things growing for the 25 years I have been prominently before the poultry world, and I say to-day, the fancier who would and is holding a prominent position before the purchasing public, does not offer to the thoroughbred trade over 50 per cent of his product; the demand is such for merit that to go beyond that is to lose caste as a fancier. The remainder must be sold to the poulterer. This offsets the purchases of the breeder's females, who does not advertise, and sells his male get to the kitchens of the land. Therefore, one can see that these two interests cannot afford to quarrel, and as the age is one of specialties in all business, perhaps both are better off for this condition of things which is now controlling the poultry industry.

The fancier will control the sale of the thoroughbred trade, will do the heavy advertising, and his experience will secure the confidence of the buyers of thoroughbred stock. The poulterer breeder cannot afford to advertise to sell his females only, and will continue to find his market for his best females with the fancier, who breeds them to his standard males and furnishes the results to the finer trade of the land. I do not say that this is best, as I do not care to meddle with other men's business. This extreme mating and the sacrifice of the males is an evil from which the poultry trade at large is suffering; but each wing of this industry will continue to do that which will bring the most money, therefore cannot afford to become enemies. The practical breeder and raiser cannot afford to kill females for broilers or poultry until they have been forced to lay for 12 months, and then the early-moulting specimens become more profitable the second year, as egg producers; besides, many times a modest pullet grows into standard color and weight, and sells to the fancier for twice her practical worth to the poulterer. Thus one sees that the thoroughbred must occupy the yards of both; the modest specimens in both are sacrificed to kitchen uses, the best controlled by the fancier. The lower 50 per cent must be managed until sold to the best advantage, by the practical breeder or old-time poulterer.—*I. K. Felch in Poultry Monthly.*

---

In order to make a mash for egg production mix a kettleful of boiled vegetables with an equal quantity of Goldthwaite's Continental Poultry Food. This food is of itself a balanced ration, and is composed of six kinds of grain with meat and fish meal. The editor of this paper has used this food with good results and can cheerfully recommend it.

Messrs. E. H. Doble & Co., West Quincy, Mass., will send samples to applicants who mention THE POULTRYMAN AND POMOLOGIST.

---

### Exchanging Eggs.

The man who would not think of exchanging one of his Berkshire pigs for one of your common ones, and who laughs at you for buying eggs of pure breeds, will walk over and ask you to exchange eggs with him. Such men are ever ready to "swap eggs" with a neighbor who is enterprising enough to own a flock of thoroughbred fowls, but the idea of paying a dollar or two for a setting of eggs is to them preposterous. A little reflection on the subject could satisfy any one that it is not alone the first cost of his breeding stock that makes it necessary for the professional breeder to sell stock and eggs for dollars when the same would bring only dimes for table use. In the first place it is not every bird raised from pure-bred parents that is fit to use as a show bird, as a good proportion must be considered as culls. Only the very best are selected to make up the breeding yards. Again, if the breeder is so careless or penny wise as to resort to inbreeding, or neglects to introduce new blood regardless of the cost, his stock will soon be worthless. The different breeds must be kept separate at least five months in the year. Houses and yards or runs cost money. The extra care and feed the fowls require, when not allowed free range, must also be taken into consideration. When one buys eggs he buys *stock*, and it is about the only time when "eggs are not eggs."—*Poultry Keeper.*

---

The Prairie State Incubator Co., Homer City, Pa., issue the largest and most expensive incubator catalogue that we have seen. It is illustrated with numerous colored plates, and has also half-tone prints of a number of poultry plants, besides portraits of several hundred of their patrons, who speak in highest praise of the most excellent machines manufactured by this company. Any one interested in artificial incubation should write for a copy of this great catalogue.

THE IMPROVED **VICTOR INCUBATOR**

Hatches Chickens by Steam Absolutely self-regulating. The simplest, most reliable, and cheapest first-class Hatcher in the market. Circulars free.

Catalogue 4 cents.

GEO. ERTEL CO., Quincy, Ill.

**For Utility and Beauty.**

PARTRIDGE COCHINS.

My birds are of large size, quick growth and prolific layers, and have been *Prize Winners wherever shown.* Choice stock for sale, especially in Cockerels for breeding or exhibition purposes.

Warren B. Coffin,
Freeport, Maine.

## BREEDERS' CARDS.

Under this heading cards of forty words or less will be inserted once for 40 cents, four times for $1.00, or one year for $2.50, always in advance. For extra words add one cent per word per insertion. Each initial or figure will count as a word. No changes allowed on four months' ads. Cards will be run in uniform style and without display. Full amount must accompany copy, or the advertisement will not be inserted.

### PLYMOUTH ROCKS.

BARRED PLYMOUTH ROCKS for sale. Choice stock for breeding, if your aim is utility as well as good scores. Fine Cockerels and Pullets at reasonable prices. Eggs in season. Satisfaction guaranteed. John P. Leavitt, Topsham, Maine.

The poultryman's harvest is now at hand, as between now and the holding of the last winter show many birds will be sold for show and breeding purposes. There is no disgrace in buying birds for the show room. There is, of course, more satisfaction in winning with birds of one's own breeding, but where one may be short of birds of the desired quality, there is certainly no harm in buying the best one can afford, and the honors won with purchased birds are legitimate honors, and such birds placed in the breeding yard and properly mated, give one's customers a chance for better quality in stock purchased or in that produced from purchased eggs. One should always aim to inprove the quality of his breeding stock, and when it cannot be done with birds from his own breeding then look to the yards of others. It does not pay to "stand still," and let the procession of wide-awake fanciers pass us by. Improvement, season after season, should be the constant aim, and if some other fancier has birds that will hasten our work, then buy such birds if possible, put them in the show room and the breeding yard, and get from them all the good possible, both in show room honors and in increased quality in our stock.—*Poultry Herald.*

---

We have received from the Chamberlain Publishing Co., Orange, N. J., the new edition of Rackham's Poultry Dictionary. It is the most complete book of its kind on the market, containing fifteen thousand names of poultry breeders, besides a list of periodicals, books, judges, supply dealers, etc. It is a book of about 200 pages, and is cheap at the price, $1. We will furnish the book at the price named or with a year's subscription to this paper for $1.15.

---

Egg Record and valuable information for two stamps. W. H. Scovil, East Lebanon, Me.

Lowell's Early Laying Strains of

BARRED PLYMOUTH ROCKS
and
R. C. BROWN LEGHORNS

will suit you if you want LAYERS- Pullets began laying this year before they were five months old.

50 Selected Cockerels and a few good hens and Pullets for sale.

Satisfaction guaranteed.

J. W. LOWELL,

Gardiner, - - Maine.

Scovil's Buff Cochins are Leaders.

GOLDTHWAITE'S

CONTINENTAL POULTRY FOOD.

A balanced ration, composed of six kinds of Grain, Meat and Fish meal.

*Price $1.50 per Hundred Lbs.*

GREEN CUT BEEF BONE,

Price 2 1-2 cents per lb. Lots of 100 lbs $2. Grain and Poultry Supplies of all kinds. Samples free.

E. H. DOBLE & CO.,,

West Quincy, Mass.

White Wonders....and Buff Wyandottes.

A few choice pairs, trios and breeding pens for sale very cheap, considering the quality of the stock. Also a few good breeding cockerels. A. L. MERRILL, 490 Court Street, Auburn, Me.

...ALL KINDS OF...

Rhode Island Reds.

Single, Rose and Pea Comb.

The Best Breed for Market Purposes in existence today.

Single Birds, Trios, Breeding Pens, or Larger Quantities for Sale.

FRED B. COCHRAN,

28 Mt. Pleasant Street,

East Somerville, Mass.,

Expert Poultryman.

Member R. I. Red Club.

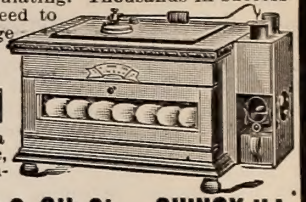
Lowest-priced First-class Hatcher made.

Hatch Chickens by Steam

WITH THE MODEL

EXCELSIOR Incubator

Simple, Perfect, Self-regulating. Thousands in successful operation. Guaranteed to hatch a larger percentage of fertile eggs, at less cost, than any other Hatcher.



THE WOODEN HEN

the most efficient incubator for raising poultry on a small scale ever invented. A perfect hatcher--automatic, self-regulating, thoroughly constructed, fully guaranteed. 28 egg capacity. Catalog free.

GEO. H. STAHL, Patentee and Sole Manufacturer, 114 to 122 S. 6th St., QUINCY, ILL.

MICA-CRYSTAL.

STANDARD POULTRY GRIT OF AMERICA.

THE PERFECTION SHELL MAKER AND GOLDEN YOLK PRODUCER.

White Quartz, 58 p. ct. DIGESTER. Aluminum, 20 p. ct. SHELL MAKER. Iron, 12 p. ct. YOLK MAKER. Magnesium, 10 p. ct. SHELL MAKER.

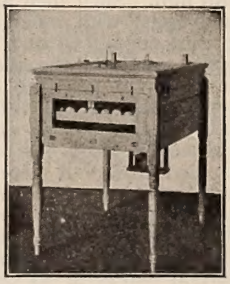
Seventh Year of Successful Introduction.

WHOLESALE DEALERS. Kendall & Whitney Portland. R. D. Dunning & Co., Bangor, Me.

BUFF { Plymouth Rocks, ...Cochins... } Solid Buff throughout

WHITE WYANDOTTES THAT ARE WHITE.

I breed for utility, and incidentally manage to maintain the highest points of standard excellence. My birds have won at many of the leading shows throughout New England. They are better now than ever before. Stock guaranteed as represented or money refunded. Cockerels $2 00 up. Breeding pens mated for best results. Write early if you want the best. W. H. Scovil, Box 2, East Lebanon, Maine.



Good-bye to the Old Method of Hatching. The New

Prairie State Incubators

have solved the problem. Used all over the world.

310 First Premiums 310

PRAIRIE STATE INCUBATOR CO.,

Send for Catalogue. Homer City, Pa.

WINNERS AT THE LEADING SHOWS

Plymouth Rocks, Barred, White and Buff | White Wyandottes.

*Finest Exhibition and Breeding Stock at Reasonable Prices.*

H. A. NOURSE,

BOX 808, BARRE, MASS.

Hatching Chickens—Easy Job

when you know just how to proceed. When the course is mapped out for you by others of experience. When you are told just what to do and how to do it, and what not to do. All these things are completely covered by the master hand of experience in our 20th CENTURY POULTRY BOOK. It leaves no poultry subject untouched. It's practical and of easy adoption. Among the rest it tells about the latest improvements in the world famous Reliable Incubators and Brooders. Used all over the U. S., and in 51 foreign countries. We mail the book to any inquirer on receipt of 10c to cover postage, etc.

RELIABLE INCUBATOR & BROODER CO., BOX 000, QUINCY, ILL.

Latest Edition, with Toronto Changes,

American Standard of Perfection

And a Year's Subscription to this paper, $1.00.